California State Board of Pharmacy
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STATE AND CONSUMER SERVICES AGENCY
DEPARTMENT OF CONSUMER AFFAIRS
ARNOLD SCHWARZENEGGER, GOVERNOR

NOTICE OF MEETING and AGENDA
Licensing Committee

DATE: **MAY 30, 2007**
TIME: **9:30 a.m. – 1 p.m.**

PLACE: **Samuel Greenberg Board Meeting Room**
(Los Angeles International Airport) – see detailed directions below
1 World Way
Los Angeles, California 90045

This committee meeting is open to the public and will be held in a barrier-free facility in accordance with the Americans with Disabilities Act. Any person with a disability who requires a disability-related modification or accommodation in order to participate in the public meeting may make a request for such modification or accommodation by contacting Gloria Schultz (916) 574-7912, at least five working days before the meeting.

Opportunities are provided for public comment on each agenda item. Board members who are not on the committee may also attend and comment.

Note: Pharmacists and pharmacy technicians who attend the full committee meeting can be awarded two hours of CE, in accordance with the board's CE policy. A maximum of four CE hours can be earned each year by attending the meetings of two different board committees.

Call to Order 9:30 a.m.

1. Proposed Regulation Requirements for Pharmacies that Compound Medication -- Amendments to 16 CCR sections 1716.1 and 1716.2 and adoption of sections 1735 – 1735.8
2. Update: Request to Add the Exam for the Certification of Pharmacy Technicians Developed by the Institute for the Certification of Pharmacy Technicians as a Qualification Method for Pharmacy Technician Registration
3. California Schools of Pharmacy Proposal to Identify and Agree on the Professional Competencies that Should Be Achieved by the End of Basic Internship Experiences
4. Update: Disaster Response/California Department of Health Services -- Healthcare Surge Project
5. Mobile Community Clinics and Licensing by the Board of Pharmacy
6. Legislative Proposal: Establishment of State Protocol for Immunizations.
7. Competency Committee Report and Update on Transition to a Test Administration Company for the California Pharmacist Jurisprudence Examination.

Adjournment 1 p.m.

Meeting materials will be available from the board's Web site by May 25, 2007

Directions to the Meeting Location

The address for the meeting is:
Samuel Greenberg Board Room.
1 World Way
Los Angeles, California 90045

If driving:
Enter off of Century Boulevard. Follow the signs to the "Arrival" area of LAX from Century Boulevard. Stay in the left lane while entering LAX.
To the left will be an off ramp with a sign that will direct you to the Administration Building and parking. At the bottom of the off ramp is a stop sign (the building that the meeting will be held is directly in from of you). Turn right at the stop sign and go about 50 feet to the parking lot that will then be in front of you after the turn. If the gate is down, push the button and tell the guard that your are there for the meeting in the Board Room. The gate will open and you can park anywhere in the lot except where it is reserved for fleet vehicles (that is only about 4 spaces).

If flying:
The administration Building is just east by about 100 yards from Terminal 1 where Southwest lands/takes off at LAX.

Agenda Item 1

Proposed Compounding Regulations

State of California | Department of Consumer Affairs

Memorandum

To: **Licensing Committee** **Date: May 23, 2007**

From: **Board of Pharmacy**

Subject: **Compounding by Pharmacies**

Background:
At the January 2007 Board Meeting, the board moved to regulation hearing proposed regulations for pharmacies that compound medication, providing patient protections when they receive medication compounded by a pharmacy. These regulations were developed during 2004 while the board was convening its Work Group on Compounding with stakeholders and other regulatory agencies.

At the January Board Meeting, noting that some individuals may wish to comment on the regulations before they are noticed, the board also asked that those individuals with comments to provide these comments to the Licensing Committee.

At and after the March Licensing Committee, comments were received from several interested parties.

Staff has reviewed these comments, looked to the proposed language from the federal bill associated with Senator Kennedy and made several modifications to the language.

The new draft follows.

We should have the time to respond to comments from our stakeholders at the Licensing Committee to this proposed version.

We will bring the finalized draft following this meeting to the board's July Board Meeting.

~~**§1716.1. Compounding Unapproved Drugs for Prescriber Office Use.**~~

~~As used in Business and Professions Code Section 4052(a)(1), the following terms have the indicated meaning concerning the compounding of unapproved drugs for prescriber office use:~~

~~(a) "Reasonable quantity" means that quantity of an unapproved drug which:~~

~~(1) is sufficient for that prescriber's office use consistent with the expiration date of the product as set forth in section 1716.2(a)(3); and~~

~~(2) is reasonable considering the intended use of the compounded medication and nature of the prescriber's practice; and~~

~~(3) for any individual prescriber and for all prescribers taken as a whole, is an amount which the pharmacy is capable of compounding in compliance with pharmaceutical standards for identity, strength, quality and purity of the compounded medication.~~

~~(b) "Compounded medication" means medications actually compounded by the pharmacy supplying them to a prescriber.~~

~~(c) "Prescriber office use" means application or administration in the prescriber's office, or for distribution of not more than a 72-hour supply to the prescriber's patients as estimated by the prescriber.~~

~~Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4027, 4033, 4050, 4051, 4052, 4059, 4170 and 4171, Business and Professions Code.~~

~~**§1716.2. Record Requirements--Compounding for Future Furnishing.**~~

~~(a) For the purpose of compounding in quantities larger than required for immediate dispensing by a prescriber or for future dispensing upon prescription, a pharmacy shall maintain records that include, but are not limited to:~~

~~(1) The date of preparation.~~

~~(2) The lot numbers. These may be the manufacturer's lot numbers or new numbers assigned by the pharmacy. If the lot number is assigned by the pharmacy, the pharmacy must also record the original manufacturer's lot numbers and expiration dates, if known. If the original manufacturer's lot numbers and expiration dates are not known, the pharmacy shall record the source and acquisition date of the components.~~

~~(3) The expiration date of the finished product. This date must not exceed 180 days or the shortest expiration date of any component in the finished product unless a longer date is supported by stability studies in the same type of packaging as furnished to the prescriber. Shorter dating than set forth in this subsection may be used if it is deemed appropriate in the professional judgment of the responsible pharmacist.~~

~~(4) The signature or initials of the pharmacist performing the compounding.~~

~~(5) A formula for the compounded product. The formula must be maintained in a readily retrievable form.~~

~~(6) The name(s) of the manufacturer(s) of the raw materials.~~

~~(7) The quantity in units of finished products or grams of raw materials.~~

~~(8) The package size and the number of units prepared.~~

~~Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4051, 4059, 4081 and 4332, Business and Professions Code.~~

Article 4.5 General Compounding

§1735. Compounding in Licensed Pharmacies

(a) "Compounding" means any of the following activities occurring in a licensed pharmacy, by or under the supervision of a licensed pharmacist, pursuant to a prescription:

(1) Altering the dosage form or delivery system of a drug
(2) Altering the strength of a drug
(3) Combining components or active ingredients
(4) Preparing a drug product from chemicals or bulk drug substances

(b) "Compounding" does not include reconstitution of a drug pursuant to a manufacturer's direction(s) for oral, rectal topical, or injectable administration, nor does it include the addition of flavoring agent(s) to enhance palatability.

(c) "Compounding" does not include, except in small quantities under limited circumstances as justified by a specific, documented, medical need, preparation of a compounded drug product that is commercially available in the marketplace or that is essentially a copy of a drug product that is commercially available in the marketplace.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.1. Compounding Definitions

(a) "Integrity" means retention of potency until the expiration date noted on the label.

(b) "Potency" means active ingredient strength within +/- 10% of the labeled amount.

(c) "Quality" means the absence of harmful contaminants, filth, putrid, or decomposed substances, and absence of any active ingredients other than those noted on the label.

(d) "Strength" means amount of active ingredient per unit of a compounded drug product.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.2. Compounding Limitations and Requirements

(a) Except as specified in (b) and (c), no drug product shall be compounded prior to receipt by a pharmacy of a valid prescription for an individual patient where the prescriber has approved use of a compounded drug product either orally or in writing. Where approval is given orally, that approval shall be noted on the prescription prior to compounding.

(b) A pharmacy may prepare and store a limited quantity of a compounded drug product in advance of receipt of a patient-specific prescription where and solely in such quantity as is necessary to ensure continuity of care for an identified population of patients of the pharmacy based on a documented history of prescriptions for that patient population. A quantity "necessary to ensure continuity of care" is that amount that might reasonably be expected to be prescribed for the identified patient population on any given day.

(c) Pursuant to Business and Professions Code section 4052(a)(1), a "reasonable quantity" of compounded drug product may be furnished to a prescriber for office use upon prescriber order, where "reasonable quantity" is that amount of compounded drug product that:

(1) is sufficient for administration or application to patients in the prescriber's office, or for distribution of not more than a 72-hour supply to the prescriber's patients, as estimated by the prescriber;
(2) is reasonable considering the intended use of the compounded medication and the nature of the prescriber's practice; and
(3) for any individual prescriber and for all prescribers taken as a whole, is an amount which the pharmacy is capable of compounding in compliance with pharmaceutical standards for integrity, potency, quality and strength of the compounded drug product.[1]

(d) A drug product shall not be compounded until the pharmacy has first prepared a written master formula record that includes at least the following elements:

[1] Moved from 1716.1

(1) Active ingredients to be used.
(2) Inactive ingredients to be used.
(3) Process and/or procedure used to prepare the drug.
(4) Quality reviews required at each step in preparation of the drug.
(5) Post-compounding process or procedures required, if any.
(6) Expiration dating requirements.

(d) The pharmacist performing or supervising compounding is responsible for the integrity, potency, quality, and labeled strength of a compounded drug product until it is dispensed.

(e) All chemicals, bulk drug substances, drug products, and other components used for drug compounding shall be stored and used according to compendial and other applicable requirements to maintain their integrity, potency, quality, and labeled strength.

(f) Every compounded drug product shall be given an expiration date representing the date beyond which, in the professional judgment of the pharmacist performing or supervising the compounding, it should not be used. This "beyond use date" of the compounded drug product shall not exceed 180 days from preparation or the shortest expiration date of any component in the compounded drug product, unless a longer date is supported by stability studies of finished drugs or compounded drug products using the same components and packaging. Shorter dating than set forth in this subsection may be used if it is deemed appropriate in the professional judgment of the responsible pharmacist.

(g) The pharmacist performing or supervising compounding is responsible for the proper preparation, labeling, storage, and delivery of the compounded drug product.

(h) Prior to allowing any drug to be compounded in a pharmacy, the pharmacist-in-charge shall complete a self-assessment form for compounding pharmacies developed by the board (form XXXXX). The self assessment shall subsequently be performed before July 1 of each year, within 30 days of the designation of a new pharmacist-in-charge, or within 30 days of the issuance of a new pharmacy license. The primary purpose of the self-assessment is to promote compliance through self-examination and education.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.2. Records of Compounded Drug Products

(a) For each compounded drug product a record shall be made and kept that includes at least:

(1) The information required for a master formula record.
(2) The date the drug product was compounded.
(3) The identity of the pharmacy personnel who compounded the drug product.
(4) The identity of the pharmacist reviewing the final drug product.
(5) The quantity of each component used in compounding the drug product.
(6) The supplier and lot number of each component.
(7) The equipment used in compounding the drug product.
(8) The internal reference (lot) number for the compounded drug product.
(9) The expiration date of the final compounded drug product.
(10) The quantity or amount of drug product compounded. [2]

(b) Pharmacies shall maintain records of the proper acquisition, storage, and destruction of chemicals, bulk drug substances, drug products, and components used in compounding.

[2] Imported in modified form from 1716.2

(c) Chemicals, bulk drug substances, drug products, and components used to compound drug products shall be obtained from reliable suppliers. The pharmacy shall acquire and retain any available certificates of purity or analysis for chemicals, bulk drug substances, drug products, and components used in compounding. Certificates of purity or analysis are not required for drug products that are approved by the Food and Drug Administration.

(d) Pharmacies shall maintain and retain all records required by this article in the pharmacy in a readily retrievable form for at least three years from the date the record was created.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.3. Labeling of Compounded Drug Products

(a) In addition to the labeling information required under Business and Professions Code Section 4076, the label of a compounded drug product shall contain the generic name(s) of the principal active ingredient(s).

(b) A statement that the drug has been compounded by the pharmacy shall be included on the container or on the receipt provided to the patient.

(c) Drug products compounded into unit-dose containers shall be labeled with the name(s) of the active ingredient(s), concentration or strength, volume or weight, and expiration date.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.4. Compounding Policies and Procedures

(a) Any pharmacy engaged in compounding shall maintain a written policy and procedure manual for compounding that establishes procurement procedures, methodologies for the formulation and compounding of drugs, facilities and equipment cleaning, maintenance, operation, and other standard operating procedures related to compounding.

(b) The policy and procedure manual shall be reviewed on an annual basis by the pharmacist-in-charge and shall be updated whenever changes in processes are implemented.

(c) The policy and procedure manual shall include procedures for notifying staff assigned to compounding duties of any changes in processes or to the policy and procedure manual.

(d) The policy and procedure manual shall include documentation of a plan for recall of a dispensed compounded drug product where subsequent verification demonstrates the potential for adverse effects with continued use of a compounded drug product.

(e) The policy and procedure manual shall include the procedures for maintaining, storing, calibrating, cleaning, and disinfecting equipment used in compounding, and for training on these procedures as part of the staff training and competency evaluation process.

(f) The policy and procedure manual shall include documentation of the methodology used to test integrity, potency, quality, and labeled strength of compounded drug products.

(g) The policy and procedure manual shall include documentation of the methodology used to determine appropriate expiration dates for compounded drug products.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.5. Compounding Facilities and Equipment

(a) Any pharmacy engaged in compounding shall maintain written documentation regarding the facilities and equipment necessary for safe and accurate compounded drug products. Where applicable, this shall include records of certification(s) of facilities or equipment.

(b) Any equipment used to compound drug products shall be stored, used, and maintained in accordance with manufacturers' specifications.

(c) Any equipment used to compound drug products shall be calibrated prior to use to ensure accuracy. Documentation of each such calibration shall be recorded in writing and these records of calibration shall be maintained and retained in the pharmacy.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.6. Training of Compounding Staff

(a) Any pharmacy engaged in compounding shall maintain written documentation sufficient to demonstrate that pharmacy personnel have the skills and training required to properly and accurately perform their assigned responsibilities relating to compounding.

(b) The pharmacy shall develop and maintain an on-going competency evaluation process for pharmacy personnel involved in compounding, and shall maintain documentation of any and all training related to compounding undertaken by pharmacy personnel.

(c) Pharmacy personnel assigned to compounding duties shall demonstrate knowledge about processes and procedures used in compounding prior to compounding any drug product.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

§1735.7. Compounding Quality Assurance

(a) Any pharmacy engaged in compounding shall maintain, as part of its written policies and procedures, a written quality assurance plan designed to monitor and ensure the integrity, potency, quality, and labeled strength of compounded drug products.

(b) The quality assurance plan shall include written procedures for verification, monitoring, and review of the adequacy of the compounding processes and shall also include written documentation of review of those processes by qualified pharmacy personnel.

(c) The quality assurance plan shall include written standards for qualitative and quantitative integrity, potency, quality, and labeled strength analysis of compounded drug products. All qualitative and quantitative analysis reports for compounded drug products shall be retained by the pharmacy and collated with the compounding record and master formula.

(d) The quality assurance plan shall include a written procedure for scheduled action in the event any compounded drug product is ever discovered to be below minimum standards for integrity, potency, quality, or labeled strength.

Authority cited: Section 4005, Business and Professions Code. Reference: Sections 4005, 4036, 4037, 4051, and 4052, Business and Professions Code.

Agenda Item 2

ExCPT Examination as a Qualifying Method for Pharmacy Technicians

State of California | Department of Consumer Affairs

Memorandum

To: **Licensing Committee** **Date: May 24, 2007**

From: **Board of Pharmacy**

Subject: **Exam for the Certification of Pharmacy Technicians (ExCPT)**

In California, individuals may become qualified for registration as pharmacy technicians by one of four means:

1. Possessing an associate's degree in pharmacy technology.
2. Completing a course of training specified by the board in regulations (accredited by ASHP, provided by the armed forces, or at least 240 hours of instruction covering specific topics).
3. Graduating from a school of pharmacy recognized by the board.
4. Being certified by the Pharmacy Technician Certification Board.

At the October Board Meeting, the board directed a review of a new exam, the ExCPT exam to determine if it is job-related. The ExCPT exam is a relatively new computer-based test used to assess the knowledge of pharmacy technicians. The Institute for the Certification of Pharmacy Technicians develops the ExCPT exam, and made a presentation to the board in October.

Section 139 of the Business and Professions Code requires a periodic assessment of all licensure examinations used by a regulatory agency for job-relatedness. The staff had hoped to use professional staff in the Department of Consumer Affairs Office of Examination Resources to conduct this assessment. However, the Department of Consumer Affairs is having a difficult time with recruitment of a PhD level expert to oversee the office.

As a result, the board is seeking a consultant to provide a review of the documentation for both the PTCB and ExCPT exams to ensure they are job-related and meet California's requirements.

We hope to initiate this review in the coming months. A request for a psychometric audit was released earlier this month.

To use the ExCPT exam as a qualifying method for pharmacy technician licensure, either a statutory or regulation amendment needs to be adopted.

Agenda Item 3

Update on the OSCE Assessment For Beginning Intern Pharmacist Competencies

State of California | Department of Consumer Affairs

Memorandum

To: **Licensing Committee** **Date: May 24, 2007**

From: **Board of Pharmacy**

Subject: **Pharmacist Intern Competencies**

The Board of Pharmacy has participated in a project initiated by California's schools of pharmacy, who are working together with other stakeholders to evaluate the components of ACPE approved intern experience at both the basic (IPPE) and advanced (APPE) levels. The project is called the California Pharmacy IPPE/OSCE Initiative.

The California pharmacy schools are collaborating on this new initiative to determine and assess the competencies that students should achieve by the end of their introductory pharmacy practice experiences (IPPEs) prior to starting their advanced pharmacy practice experiences (APPEs). This initiative is in response to new ACPE accreditation standards that spell out how much time students must spend in IPPEs and APPEs rather than what they should learn (outcomes). The ACPE believes that there should be 300 hours of this basic experience.

Three day-long meetings have taken place so far – January 26, February 28 and March 27. The committee has drafted a list of basic competencies that students should achieve by the end of the IPPE. Board Member Ravnan, Legislative Coordinator Anne Sodergren and I have attended these meetings on behalf of the board.

The second phase will begin in June and involves developing a reliable and valid performance-based exam (i.e., objective structured clinical exam, OSCE) to assess student achievement of these competencies.

The timeline aims for incorporation of the standards during academic year 2007-08.

Attached, for your information, are the competencies developed under this project.

Licensing

Proposed Competencies for Introductory Pharmacy Practice Experiences (IPPEs)

Through Introductory Pharmacy Practice Experiences (IPPEs), pharmacy students are expected to master foundational competencies in three domains: Communication and Professional Behavior, The Practice of Pharmacy, and Public Health. These competencies address the basic skills that prepare the student for the Advanced Pharmacy Practice Experiences (APPEs) offered through the pharmacy curriculum. As such, they represent an intermediate point in the professional development of a pharmacist. They are applicable across a spectrum of practice and other experiential settings and are expected to build in complexity over time.

The Purpose of Introductory Pharmacy Practice Experiences (IPPEs) is to:

- Develop the basic knowledge, skills, and attitudes for pharmacy practice
- Instill professionalism
- Expose students to the roles of the pharmacist and pharmacy practice settings

Upon completion of the IPPEs, the pharmacy intern should be able to:

I. Communication and Professional Behavior

A. Communicate effectively.

1. Communicate accurate and appropriate medical and drug information to a pharmacist, preceptor or other health care professional in a clear and concise manner.
2. Determine the appropriate means of communication for the situation.
3. Actively listen to patients, peers, and other health care professionals.
4. Use proper grammar, spelling, and pronunciation in communications.
5. Explain medication information to patients in understandable terms.
6. Adjust communication based on contextual or cultural factors, including health literacy, language barriers, and cognitive impairment.
7. Routinely verify patient or recipient understanding of communicated information.
8. Demonstrate effective public-speaking skills and the appropriate use of audio-visual media when communicating with groups of patients, peers, and other health care professionals.
9. Develop effective written materials for patients, peers, and other health care professionals.

B. Interact with patients & the health care team.

1. Articulate the pharmacist's role as a member of the health care team.
2. Establish professional rapport with patients and healthcare professionals.
3. Demonstrate sensitivity to and respect for each individual's needs, values, and beliefs, including cultural factors, religious beliefs, language barriers, and cognitive abilities.
4. Demonstrate empathy and caring in interactions with others.
5. Maintain patient confidentiality and respect patients' privacy.
6. Demonstrate ability to resolve conflict in the pharmacy practice setting.

C. Behave in a professional and ethical manner.

1. Dress professionally and appropriately for the practice setting.
2. Arrive punctually and remain until all responsibilities are completed.
3. Use time effectively and efficiently.

3. Distinguish professional interests from personal interests and respond appropriately.
4. Demonstrate awareness of personal competence and limitations and seek guidance or assistance from preceptors when appropriate.
5. Accept responsibility for one's actions.
6. Respond appropriately to feedback from preceptors, patients, peers, and other health care professionals.
7. Show initiative in interactions with patients, peers, and other health care professionals.
8. Demonstrate passion and enthusiasm for the profession.
9. Be aware of and work appropriately within the culture of the assigned practice setting.
10. Demonstrate awareness of site or institutional policies and procedures.
11. Prioritize workload appropriately.
12. Identify issues involving ethical dilemmas.
13. Weigh and balance different options for responding to ethical dilemmas.
14. Propose steps to resolve ethical dilemmas.
15. Adhere to all state and federal laws and regulations as a pharmacy intern in the practice setting.

II. The Practice of Pharmacy

A. Organize and Evaluate Information.

1. Assess prescription or medication orders for completeness, authenticity, and legality.
2. Verify that dose, frequency, formulation, and route of administration on prescription or medication orders are correct.
3. Obtain any pertinent information from the patient, medical record, or prescriber as needed for processing prescription or medication orders (e.g., allergies, adverse reactions, diagnosis or desired therapeutic outcome, medical history).
4. Review the patient profile or medical record for any allergies or sensitivities.
5. Determine the presence of any potential medication-related problems.
6. Determine if it is legal and appropriate to refill a prescription, contacting the prescriber for authorization if necessary.

B. Prepare and dispense medications.

1. Accurately enter patient information into the patient's pharmacy profile or medication record.
2. Select the correct drug product, manufacturer, dose, and dosage form and prepare it for dispensing.
3. Assure that the medication label is correct and conforms to all state and federal regulations.
4. Assure that the label conveys directions in a manner that is understandable to the patient and that appropriate auxiliary labels are attached.
5. Select an appropriate container for storage or use of medications with special requirements (e.g., child-resistant containers, compliance devices).
6. Accurately perform and document the necessary calculations to correctly prepare the medication.
7. Perform the required technical and basic compounding steps to produce a pharmaceutically elegant product.

8. Demonstrate aseptic technique during the preparation of parenteral medications.
9. Document the preparation of any medication that has been compounded, repackaged, or relabeled.
10. Adjudicate third-party insurance claims using established billing systems
11. Determine the appropriate storage of medications before and after dispensing.
12. Comply with all legal requirements and professional scope of practice.

C. Provide patient counseling.

1. Communicate pertinent information to the patient to encourage proper use and storage of medications.
2. Discuss any precautions or relevant warnings about medications or other therapeutic interventions.
3. Assure that the patient comprehends the information provided, including what to do in the event that a medication-related problem occurs.
4. Assess and reinforce the patent's adherence to the prescribed therapeutic regimen.

D. Maintain accurate records.

1. Document the preparation and dispensing of medications.
2. Maintain manual or computerized files for prescription records that conform to state and federal laws and regulations.
3. Adhere to state and federal laws and regulations related to inventory control (e.g., controlled substances, investigational drugs).

E. Assist patients seeking self care.

1. Assess a patient's self-identified problem (e.g., common cold, fever, pain, gastrointestinal problems) to determine if the problem is appropriate for self care or requires referral.
2. Discuss options for treatment and recommend appropriate non-prescription product(s) if indicated.
3. Counsel the patient about the proper use of self care products
4. Instruct a patient about the proper use of a diagnostic agent or device, including directions for obtaining accurate results and how to interpret the results.
5. Teach a patient the proper and safe use of commonly used health products (e.g., condoms, thermometers, blood pressure monitoring devices, blood glucose meters, metered-dose devices, ear syringes, adherence devices).

F. Contribute to the optimal use of medications

1. Articulate the pharmacist's role in medication use oversight (e.g., formulary management, practice guidelines).
2. Participate in established medication safety and quality improvement activities (e.g., adverse drug reaction reporting, medication reconciliation).
3. Access, select, utilize, and cite appropriate references for health information and patient education materials.
4. Demonstrate basic proficiency with the technology used at assigned IPPE sites.

III. Public Health

A. Participate in health education programs and community-based health interventions.

1. Raise public awareness about the role of a pharmacist as a public health educator.
2. Participate in activities that promote health and wellness and the use of preventive care measures.
3. Articulate the concept of advocacy - what it means both professionally and personally.

B. Demonstrate public health-related practice skills.

1. Administer subcutaneous, intramuscular or intradermal injections, including immunizations.
2. Screen for common medical conditions and make appropriate referrals.
3. Conduct smoking-cessation interventions when appropriate.

Agenda Item 4

Disaster Response For Pharmacy

State of California | Department of Consumer Affairs

Memorandum

To: **Licensing Committee** **Date: May 24, 2007**

From: **Board of Pharmacy**

Subject: **Emergency Preparedness for California**

Emergency Preparedness continues to be an important initiative of this Administration.

1. Surge Response:
In late February, the state began working with a contractor (PriceWaterhouseCoopers) who is developing a response plan for the surge response following a pandemic, a nuclear event or an earthquake. The goal is to prepare state agencies for an effective (and less chaotic) surge response. Several inspectors from the board have attended the meetings, as has a board member. There have been a number of these planning meetings – at least 10-12 work days.

I am pleased to state that the board's general policy statement that outlines its expectations for how disaster response in California may proceed with respect to board licensees has been a large success with the group.

In this packet are materials that have been prepared under this consultant. I am including an informal note to me from Board Inspector Ralph Orlandella who attended nearly all the sessions.

Additionally I am enclosing a letter from the California Department of Health Services that encourages the department's healing arts boards to institute emergency response planning. (Unfortunately, the letter makes an erroneous statement regarding scope of practice and disaster plans. This was corrected with the Department of Health Services after we received the letter.)

2. NABP Recommendations for Emergency Response

In November 2006, NAPB released its guidelines to assist pharmacy in preparing and responding to emergencies.

This committee has never reviewed this material, so I am including it in this section.

The committee may want to discuss how it wishes to proceed with continuing to develop its planning activities.

3. County of San Diego Request for Dispensing Doxycycline or Ciprofloxacin

Very recently the board received a request from San Diego County to provide an unspecified number of up to 500,000 bottles of a 7-14 day dosing regiment of doxycycline or ciprofloxacin to first responders, that would be stored in their homes for their and their families' use, with the remainder being stored somewhere (unmentioned) else. They county seeks an exemption from patient-specific labeling because it would be "difficult, if not impossible" to label these containers.

Whereas the board could exempt such labeling after an emergency had been declared, I am unaware under what authority the board could grant such an exemption in advance of a disaster unless the board promulgated a regulation or obtained statutory approval to authorize this.

The request from San Diego County is attached. They seek the board's advice about how they could make plans to get this medication to first responders and their families easily. I believe that someone from San Diego County will be able to attend our meeting to respond to questions from the committee.

DHS Healthcare Surge Report

MEMORANDUM

Date: 05/14/07

To: Virginia Herold
From: Ralph Orlandella

SUBJECT: Disaster Surge Meeting

Hi Giny

The last Surge meeting I participated in went extremely well. They definitely listened to and used the input from the Board. This meeting was primarily a summary session used to develop of final draft for the stakeholders review at the next meeting.

I printed a copy of the Draft Copy. Don't let the size of the document scare you. The majority of the pages are planning lists for the health care facilities.

The first section of the document covers the process for acquiring supplies, pharmaceuticals and equipment prior to a surge.

The second section covers planning for storage both pre-surge and during a surge. This section includes inventory management, environmental factors, security and transport.

The third section covers recommendations for "staging". This section applies to equipment and supplies more than pharmaceuticals.

The fourth section covers licensing and regulatory implications impact. They relied greatly on the statement of the Board of Pharmacy as an example of what needs to be done in a surge. (Found on pages 87-89). Most of the pharmacy topics are found on page 35 through page 38.

Overall I believe this surge document is very good. I still have a small problem in that it appears the surge seems to focus almost exclusively on the acute care setting. I really could not find a definition of "Alternate Care Facility" (ACF). This may be defined by one of the other work groups. I imagine pharmacies would be considered an ACF but there was no discussion of this in my work group.

Community pharmacies and sterile compounding pharmacies will definitely have an important role in maintaining the health of the general population and the less

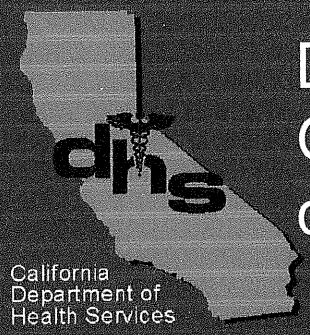
seriously injured not treated in the acute setting. This is both a challenge and an opportunity for pharmacy and the Board to develop pharmacy's role in a disaster.

One new thing this group discussed and suggested was that the Board requires completion of a Disaster Plan continuing education program as part of the license renewal process. The focus should be on the role of the pharmacist and how to adapt to the requirements of a surge setting. I don't think such a program really exists at this time. There are programs that discuss the causes of disaster, but nothing that discusses the pharmacist's role in a surge.

I hope this summary is helpful.

I will be on vacation when the surge program has its next meeting.

Ralph O



Development of Standards and Guidelines for Healthcare Surge during Emergencies

Supplies, Pharmaceuticals, and Equipment

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NOTE: This document is a draft output from the Supplies, Pharmaceuticals, and Equipment work team. It is the culmination of input received from multiple sources which includes ideas generated by stakeholders, reference material gathered through research, documents submitted by stakeholders, and analysis of current regulations and statutes. It is a work in progress and will continue to be refined over the next few weeks. We would like to solicit your feedback on the content of this document. The quality and effectiveness of this deliverable is ultimately decided by you, the stakeholder.

Introduction

Providing healthcare during a large scale public health emergency presents significant challenges for healthcare facilities, licensed healthcare professionals, and communities. During emergency events, healthcare systems must convert quickly from their existing patient capacity to "surge capacity" - a significant increase beyond usual capacity - to rapidly respond to the needs of affected individuals. The demands of the emergency may prevent compliance with the existing healthcare standards. Just as California has healthcare standards for use with a normal operations, it is essential that California provide guidelines that identify the extent to which existing standards can be flexed or waived for healthcare delivery during emergencies.

Surge planning for the healthcare system is a substantial and complex challenge. In a time of significant disaster, a successful plan must provide flexibility to address capacity (volumes of patients) and capabilities (types of illnesses) that emerge above baseline requirements. The issues addressed are diverse and include standards of practice during an emergency, liability of hospitals and licensed healthcare professionals, reimbursement of care provided during an emergency, operating alternate care sites, and planning considerations for surge operations at individual hospitals.

Upon completion of this project, stakeholders will have access to a *Standards and Guidelines Manual* that will serve as a reference manual on existing statutory and regulatory requirements identifying what will be flexed or modified under different emergencies; *Operational Tools* that include forms, checklists and templates to facilitate and guide the adoption and implementation of statutory and regulatory requirements outlined in the Standards and Guidelines Manual; and a *Training Curriculum* outlining intended audience, means of delivery and frequency of training that will enable adherence to the policies and overall readiness of the healthcare delivery system.

The deliverables will serve as the basis for planning and operations of healthcare facilities, providers and communities during an unexpected increase in demand for healthcare services. The deliverable will focus on eight areas: (1) Declaration and Triggers; (2) Existing Facilities; (3) Alternate Care Sites; (4) Personnel; (5) Supplies, Pharmaceuticals and Equipment; (6) Funding Sources; (7) Administrative; and (8) Population Rights.

Supplies, Pharmaceuticals, and Equipment (SP&E) Overview

There are existing processes for healthcare facilities to access, procure, store and distribute supplies, pharmaceuticals, and equipment. Each step of the supply chain is impacted in a different manner. During a surge, these processes may be altered and there needs to be an organized process that is understood so that each of the operational levels can obtain potentially scarce resources in a timely manner.
Supplies in the context of this document are durable and consumable goods which are essential in carrying out the treatment of a patient's illness or injury. Pharmaceuticals are any prescription medications, over the counter drugs and/or nutraceuticals administered to persons to diagnose, treat, or prevent disease or other abnormal conditions. Equipment is fixed or portable equipment used for diagnosis, treatment, monitoring and direct care of individuals. Acquisition in terms of this document is defined as the process of acquiring supplies, pharmaceuticals, and equipment from various sources via procurement, stockpiles, caches, and other sources. It is distinguished from procurement in that procurement is the process of obtaining supplies, pharmaceuticals, and equipment via contracts, government requests, and mutual aid that includes an arrangement of payment. Procurement is considered a subset of access.

The first section illustrates the process for acquiring supplies, pharmaceuticals, and equipment pre-surge and during a surge. It considers different types of facilities and an ACS and describes the process for accessing the SEMS structure to obtain the needed materials. Guidance is provided on the types and quantities of supplies, pharmaceuticals, and equipment that may be needed during a surge. This section makes recommendations for the types of personal protective equipment (PPE) that maybe required at existing healthcare facilities and ACSs in the event of a surge.

Once the supplies, pharmaceuticals and equipment are accessed the materials must be stored adequately. There are several considerations from both the pre-planning and the in-surge perspectives. The second section divides storage into the areas of inventory management, environmental, security, transport, and ease of access as it pertains to the areas of supplies, pharmaceuticals and equipment specifically.

When storing supplies, pharmaceuticals, and equipment, the method in which the materials are set up can significantly impact the surge response. The third section provides general recommendations on "staging' that can be specified to various sites.

The fourth section provides an understanding of how liability, licensing, and regulatory implications impact the distribution of supplies, pharmaceuticals, and equipment. This section highlights specific advanced planning mechanisms that have been implemented for the purpose of encouraging the emergency provision of care to affected patients and areas. It provides answers to questions such as "can standards be flexed for using expired

medications during a surge?" and "are there waivers for requirements that may be implausible to meet under certain circumstances?" If understood correctly, this knowledge could assist personnel in the delivery of care.

The Acquisition Process

Accessing the SEMS structure

The Standardized Emergency Management System (SEMS) is the system required by Government Code § 8607 (a) for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS consists of five organizational levels that are activated as necessary: field response which includes the on-scene responders, local government which includes county, city or special districts, operational area (OA) which includes the responsible jurisdictions within the boundary of a country, region includes operational areas and state which includes coordination integrated with federal agencies. The five SEMS organization levels, together with the private sector, represent all resources available within the State that may be applied in disaster response and recovery phases.

According to SEMS, resource requests for response and recovery originate at the level of government where the needs are unmet and are progressively forwarded to the next higher level until filled. All public health functions should be incorporated into SEMS system through the Mutual Aid System concept. The CDHS Emergency Response Plan defines mutual aid as voluntary assistance provided by agencies, local governments, and the State in the form of additional resources, facilities and other support whenever jurisdictions' resources prove to be inadequate to cope with a given situation.

The following diagram, pulled directly from the CDHS Emergency Response Plan, illustrates the mutual aid system concept and the general flow of requests and resources.

The Local Health Officer (LHO) has the authority to declare a health emergency. When a health emergency has been declared, the LHO has supervision and control over all environmental health and sanitation programs, personnel and resources employed by the county during the state of emergency.

Medical and health coordination, at the OA level, is accomplished through the designated Medical/Health Operational Area Coordinator (MHOAC). The position of MHOAC can be filled by either the LHO or a designated representative tasked by the LHO. The MHOAC is responsible for coordinating mutual aid support within the OA, and responding to mutual aid resource requests. During a disaster the MHOAC directs the medical/health branch of the OA EOC, establishes priorities for medical and health related requests, responses and resources.

The SEMS system is designed for the public sector. Health facilities, whether they are existing facilities or designated at the time of the disaster as alternate care sites, have to understand how to access mutual aid via the SEMS system during a disaster. At the present time, it is not clear how private sector health facilities will access mutual aid via the SEMS system.

SUPPLIES, PHARMACEUTICALS, & EQUIPMENT

Mutual aid works on the premise that health facilities will exhaust their normal access points for supplies, pharmaceuticals and equipment prior to making a formal request via the SEMS system. Some health facilities, such as hospitals, have multiple access points given existing supply chains with established retailers and wholesalers relationships. Other types of facilities, especially alternate care sites that are erected at the time of the disaster, may have considerably fewer access points and would rely primarily on mutual aid to sustain operations in the short-term. As such a process has been developed to enable a consistent and predictable approach for health facilities to access supplies, pharmaceuticals and equipment mutual aid via SEMS during a disaster.

Pre-Surge Planning Activities

During planning, it is essential that health facilities perform two preparatory activities: 1. Identify a "Duty Officer" and 2. Identify the relevant access point to the SEMS system in their respective OA.

1. A Duty Officer function should be established that will be responsible for compiling, analyzing and relaying mutual aid requests to the SEMS system during a disaster. The duty officer could represent an individual facility or multiple facilities within an OA that have Memorandum of Understanding (MOU) in place. The Duty Officer function should have 24-7 coverage and should be filled by personnel who are trained in the SEMS system and have working knowledge of their facilities' emergency response plan. This function should not be viewed as a new position and could be merged with other existing emergency preparedness roles already in existence at health facilities. For alternate care sites, the LHO should designate a representative to fill the Duty Officer role. The Duty Officer role and Alternate Care Site Administrator role should be filled by different individuals.

2. One of the first tasks of the Duty Officer should be the identification of his or her SEMS contacts. At a minimum, the following roles should be identified and their names and contact information should be maintained in the respective health facilities' emergency response plans:

    a. HRSA Coordinator
    b. Local Health Department & Officer
    c. MHOAC
    d. Local EMS Agency Administrator and Medical Director
    e. OA Emergency Operations Center (EOC)

It is recommended that the Duty Officer set up an introductory meeting with his or her MHOAC and LHO. The purpose of the meeting will be to begin a working collaborative relationship with active sharing of relevant supplies, pharmaceuticals and equipment information.

It is important that the Duty Officer understand the acquisition process for his or her health facility. The acquisition process for health facilities is usually well defined in Standard Operating Procedures and includes multiple functional areas such as operations, procurement, receiving and materials management working in collaboration.

For alternate care sites, however, an acquisition process and a supply chain may not exist. It is recommended that Local Health departments invest time to develop MOUs with existing health facilities to leverage supply chains in their OA. It is also recommended that they identify procedures and tools that enable receiving and materials management functions to support the inflow, use, and distribution of supplies, pharmaceuticals and equipment during a disaster.

During a Surge

When a health facility experiences a surge, the Duty Officer should initiate two activities:

1. Engage the facility's acquisition process for additional supplies, pharmaceuticals and equipment. Working with the relevant functional areas at his or her facility, the Duty Officer should compile information regarding patient volume and acuity, the demand placed on existing quantities of supplies, pharmaceuticals and equipment, the anticipated increase in demand and the shortage in supply over time.

2. Notify the SEMS emergency contacts identified in their emergency response plans in the following order - Local Health Department, MHOAC, and Local EMS Agency. Hospitals may use their information notification systems such as ReadyNet, EMsystem, and WebEOC to communicate with each other. When the Duty Officer contacts the personnel identified in his or her emergency response plan, he or she should share the information that has been compiled and verbalize the anticipated need for supplies, pharmaceuticals and equipment.

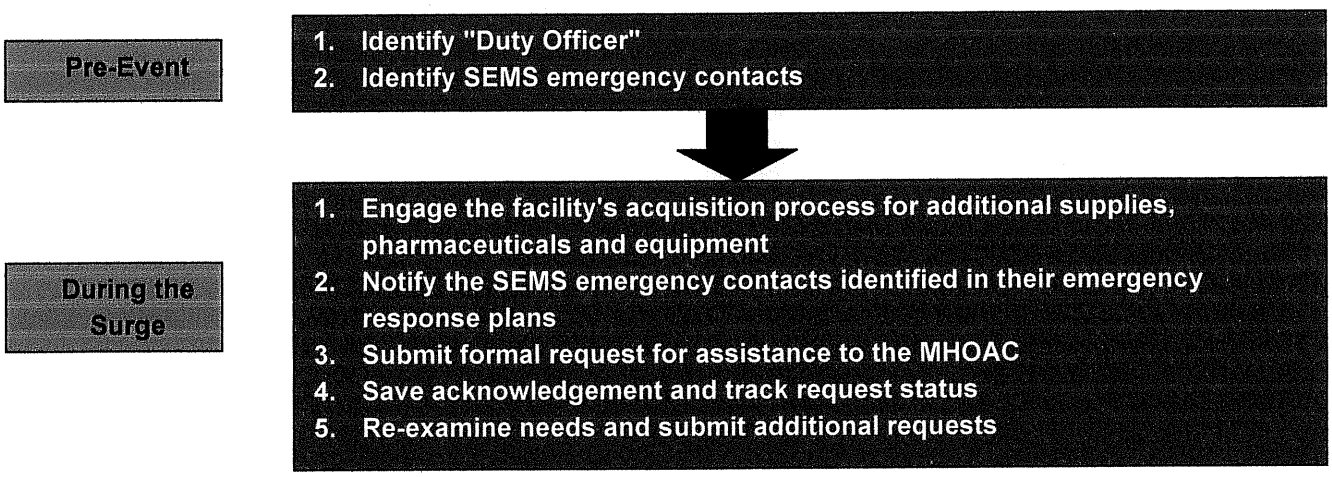
The Duty Officer should complete a status report and a formal request for assistance when the resources at his or her facility prove to be inadequate to cope with the surge. This formal request should be submitted to the MHOAC and should be specific and quantifiable. **The submission of the request for assistance from the Duty Officer to the MHOAC is the formal entry point for the facility into the SEMS system.**

The Duty Officer should ensure that when acknowledgement is received, it is saved and used to track request status. The acknowledgement should contain confirmation of the specific request that was made, the anticipated response time, and any additional information on the scope and impact of the disaster and its effect on mutual aid requests.

When creating a formal request for assistance, the Duty Officer should at a minimum take the following into consideration:

- Is the surge created by a disaster that has impacted transportation and routing capabilities?
- If requesting equipment, does the facility have the appropriate personnel trained to operate that equipment?
- If requesting pharmaceuticals, does the facility have the appropriate licensing or licensed personnel to accept receipt of the shipment?
- Does the facility have the appropriate security protocols and resources to manage the requested shipment?

The following diagram illustrates the pre-disaster and response activities described above.



When requests for assistance are submitted to MHOAC, it is important to understand how that request is processed. The MHOAC upon receiving a request for assistance forwards the request to the County EOC. The County EOC then enters the request and status report into the current request processing system - RIMS. If resources are available to fulfill the request, they are shipped to the requesting facility. However, if there demand for resources exceeds the supply, the request is escalated to the next level of the SEMS system. Request fulfillment is then prioritized and processed using a "Find and Delivery" process. The following list is an example of factors that may be taken into account in prioritizing requests:

- Affected population - Volume
- Affected population - Acuity
- Affected population - Special Needs
- Anticipated expansion of the disaster
- System-wide supply of resources
- System-wide demand of resources
- Transportation availability and access routes
- Security and safety of resources

MOUs are an effective way to leverage available supplies, pharmaceuticals and equipment within a community. The process of developing an MOU, while time and effort intensive, provides indirect benefits to the parties involved. Two major benefits of going through the process of developing an MOU are 1. an increased level of awareness and understanding of a community's needs and capabilities; and 2. an environment of trust and collaboration during a disaster. In many ways, MOUs are collaboration building tools whereby the process of developing an MOU becomes more crucial and beneficial than the resulting document. It is also beneficial to note that FEMA requires that a contract (MOU) be in existence prior to a disaster in order for facilities and organizations to be eligible for funding. MOUs could provide the basis for counties and OAs to perform realistic emergency preparedness planning and needs assessments.

Donations received from National Relief Organizations (NRO) and manufacturers are another way of increasing the pool of supplies, pharmaceuticals and equipment during a surge. In recent disasters, facilities have solicited these organizations directly for donations. This is recommended only if the facility has the adequate infrastructure, personnel and processes in place to manage the receipt, storage, maintenance, security and deployment of the donated supplies, pharmaceuticals and equipment. Instead, it is recommended that NRO and manufacturer engagement take place at the OA level by the OA EOC. This will enable the entry of additional resources at a level where it can be part of the overall system supply base and be made available for the communities that may be in most need.

Lastly, the Pharmacist plays an intricate role and their education, knowledge, and skills can be valuable if utilized strategically during a surge scenario. Below are key areas where the Pharmacist could effectively function.

- Organization and oversight of acute care dispensing activities, recognizing that they may not always be physically present during the dispensing process.
- Organization and oversight of ambulatory dispensing activities.
- Organization and oversight of mass dispensing activities, should they be necessary.
- Organization and oversight of drug acquisition from suppliers, retail facilities, and known caches.

- Organization and oversight of drug distribution within the existing facilities and the ACSs.
- Provide guidance on drug utilization, drug information and drug interactions.
- Organization acquisition of human resources by working through the Board of Pharmacy and other networks.

Preparation for Surge

The objective of the preparation for surge planning with respect to supplies, pharmaceuticals, and equipment is to make each facility as self sufficient as possible. In the event of a nuclear or radiological occurrence for example, existing healthcare facilities may need to be fully self-sufficient and sustain operations for an extended period of time to treat patients and carry on healthcare delivery. "The term sustainability describes the ability of a local health care system to tolerate an extreme event until significant outside assistance arrives.[i]" Research supports that outside assistance arrived after a disaster from a range of 24 to 96 hours with peak demand time occurring within 24 hours.[ii] The Health Resources and Services Administration (HRSA) also supports the need for existing healthcare facilities to be self sufficient for an extended period of time by defining surge capacity requirements for a region as the ability to care for 500 cases per one million population with infectious diseases, 50 cases per one million with chemical toxicity, 50 cases per one million with burns or trauma (blast), and 50 cases per one million with radiation injury within a 24-hour period.[iii]

In preparation for a surge, the general recommendation is that existing healthcare facilities should have enough supplies, pharmaceuticals and equipment at their facility to be self sufficient for 72 hours at a minimum with a goal of 96 hours and operate at 20 to 25 % above their normal operating capacity. Stockpiling activity at an unreasonable increase in cost to the facility is not expected. As referenced prior, there are a diverse set of existing healthcare facilities within California. Facilities that have the capability of incurring the cost of planning for a 25% increase in patient volume for 72 to 96 hours are encouraged to do so. When considering the type of events that may occur, facilities may need to rely on the available market supply (e.g. MOUs, retailers or wholesalers) and State stockpiles for specific supplies, pharmaceuticals, and equipment. For those unable to incur a 25% increase via stockpiling, they are encouraged to increase the number of MOUs, mutual aid agreements, and relationships they have within the community (via collaborative community planning) and then rely on "just-in-time" (JIT) relief in a surge. This is however, a risky approach.

Healthcare facilities can use existing inventory and plan for 20-25% more of similar types of patients while taking into account specific characteristics of their region (e.g. proximity to a nuclear power plant). For the purposes of pre-planning for a surge, it is vital that existing healthcare facilities complete a Hazard Vulnerability Assessment (HVA) to understand what physical hazards can cause a surge situation so preparation can be strategic. Below is

an example of an HVA is below which attempts to identify the risk of the event by quantifying the probability of the event occurring and the potential severity.

EVENT	PROBABILITY	SEVERITY = (MAGNITUDE - MITIGATION)						AMMC RISK
		HUMAN IMPACT	PROPERTY IMPACT	BUSINESS IMPACT	PREPARED-NESS	INTERNAL RESPONSE	EXTERNAL RESPONSE	
	Likelihood this will occur	*Possibility of death or injury*	*Physical losses and damages*	*Interuption of services*	*Preplanning*	*Time, effectivness, resouces*	*Community/ Mutual Aid staff and supplies*	*Relative threat**
SCORE	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = Low 2 = Moderate 3 = High*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 = N/A 1 = High 2 = Moderate 3 = Low or none*	*0 - 100%*
Hurricane	0	0	0	0	0	0	0	**0%**
Tornado	1	1	1	1	2	2	2	**17%**
Severe Thunderstorm	1	1	1	1	2	2	2	**17%**
Snow Fall	0	0	0	0	0	0	0	**0%**
Blizzard	0	0	0	0	0	0	0	**0%**
Ice Storm	0	0	0	0	0	0	0	**0%**
Earthquake	2	1	2	2	1	1	2	**33%**
Tidal Wave	1	0	0	0	0	0	0	**0%**
Temperature Extremes	0	0	0	0	1	1	1	**0%**
Drought	1	0	0	0	1	1	1	**6%**
Flood, External	1	1	1	1	1	1	1	**11%**
Wild Fire	0	0	0	0	1	0	0	**0%**
Landslide	1	0	0	0	0	0	0	**0%**
Dam Inundation	1	0	2	1	2	1	1	**13%**
Volcano	0	0	0	0	0	0	0	**0%**
Epidemic	2	2	0	1	1	1	1	**22%**
AVERAGE SCORE	**0.69**	**0.38**	**0.44**	**0.44**	**0.75**	**0.63**	**0.69**	**4%**

**Threat increases with percentage.*

RISK =	PROBABILITY *	SEVERITY
0.04	0.23	0.18

Existing healthcare facilities cannot plan to rely on stockpiles from the operational area, region, state or federal within the first 72 to 96 hours. The goal of surge planning with respect to supplies, pharmaceuticals, and equipment is to have enough inventories on hand to maintain existing operations, as well as respond to acute, incremental acute needs until stock is replenished, either through routine supply chain channels or existing caches.

Guidance for acquiring Pharmaceuticals in the pre-planning and in-surge phases

There are four tools (Tools 1-4) facilities can use and when preparing for pharmaceutical needs. The decision as which tool or tools to use is site dependent, based on the existing complexity of services offered, volume expectations during a surge, and the needs of the community. Due to the financial impact, the decision to

increase existing inventories and/or cache a supply a pharmaceuticals to accommodate a surge event should be made in conjunction with hospital leadership.

When resources allow, or are available within the community, strong consideration should be given to involving key stakeholders in the planning process that include but are not limited to:

- Clinical Pharmacists
- Disaster Coordinators
- Emergency Department Directors
- Emergency Department Physicians
- Respiratory Therapists
- Pulmonologists
- Critical Care Coordinators
- Infectious Disease Physicians
- Poison Control Specialists
- Drug Information Specialists
- Radiologists
- Radiation Safety Officers
- Hospital Administrators

Tool 1 - Basic Inventory Approach

As with all departments in a hospital, pharmacy inventory levels are closely scrutinized and the challenge is often to move as close as possible to just-in-time (JIT) to enhance financial performance. The pharmacy wholesalers support these JIT efforts by providing deliveries five to six days per week. Additionally, wholesalers provide pharmacies access to historical purchase data and software tools to easily establish par levels, reorder points and reorder quantities. Despite the frequency of deliveries, pharmacies must plan for the gaps in delivery service, e.g., 24-48 hours at a minimum, and establish par levels accordingly, therefore creating a barrier to a true JIT system.

A limitation often seen with the calculation of par levels is that they are established using "averages", and therefore do not account for significant variations in utilization that are sometimes seen in hospitals, e.g., a sudden increase in the use of an antimicrobial due to seasonality changes. To compensate for the gaps in delivery service and the limitations of par level calculations, pharmacies identify key pharmaceuticals that are critical to patient care and adjust par levels on these products accordingly.

This first tool is designed to build upon existing practices within pharmacy operations and develop a systematic approach to establishing baseline inventory levels to sustain normal operations for 72-96 hours. Because of

existing gaps in delivery, many pharmacies may be currently operating at or near these levels. This tool helps creates a baseline inventory for normal operations for 72-96 hours. See the process flow below.

Steps to consider when determining pharmaceuticals needed during a surge at an Existing Facility or ACS

Step 1 — Obtain an "80/20" report from the pharmacy wholesaler

DISTRIBUTION CENTER	NDC	ITEM #	DESCRIPTION	FORM	STR	GENERIC GROUP	NET QTY	NET SALES	CUM SALES	CUM % of Total Sales
RALEIGH (B)	00075062040	270884	LOVENOX 40MG PFS 10X0.4ML	PFS	40	ENOXAPARIN SODIUM S.C.	384	$71,527.91	$71,527.91	6%
RALEIGH (B)	00173044202	463928	ZOFRAN 2MG/ML SDV 6X2ML	SDV	2	ONDANSETRON HCL	818	$68,507.60	$140,035.41	11%
RALEIGH (B)	00004196401	098772	ROCEPHIN 1 GM VL 10X10ML	VL	1	CEFTRIAXONE SODIUM	309	$67,924.36	$207,959.77	16%
RALEIGH (B)	00075062300	533844	LOVENOX 100MG PFS 10X1ML	PFS	100	ENOXAPARIN SODIUM	71	$33,148.09	$241,107.86	19%
RALEIGH (B)	66513082310	446890	EPOGEN S40 40M UN/ML VL 10X1ML	VL		EPOETIN ALFA	6	$26,983.08	$268,090.94	21%
RALEIGH (B)	00075062280	532770	LOVENOX 80MG PFS 10X0.8ML	PFS	80	ENOXAPARIN SODIUM	68	$25,239.31	$293,330.25	23%
RALEIGH (B)	67894004002	595579	RETAVASE HALF KIT	KIT		RETEPLASE	21	$23,869.53	$317,189.78	25%
RALEIGH (B)	00310030022	748897	DIPRIVAN 10MG/ML VL 25X20ML	VL	10	PROPOFOL	83	$22,845.54	$340,035.32	27%
RALEIGH (B)	08290094110	934861	NORMAL SALINE 0.9% W/CANN SYG 30X10ML	SYG		SODIUM CHLORIDE	1,467	$22,013.42	$362,048.74	28%
RALEIGH (B)	00074445604	232207	ULTANE PEN BTL LIQ 250ML	LIQ		SEVOFLURANE	97	$21,482.84	$383,531.58	30%

Step 2 — Identify the items on the "80/20" report that the organization believes would be impacted during a surge

Step 3 — Based on historical data, establish 72-96 hours par levels for these items

Step 4 — If sterile solutions are on the list (e.g. Lactated Ringers, are obtained from a different vendor) identify the items that the organization believes would be impacted during a surge

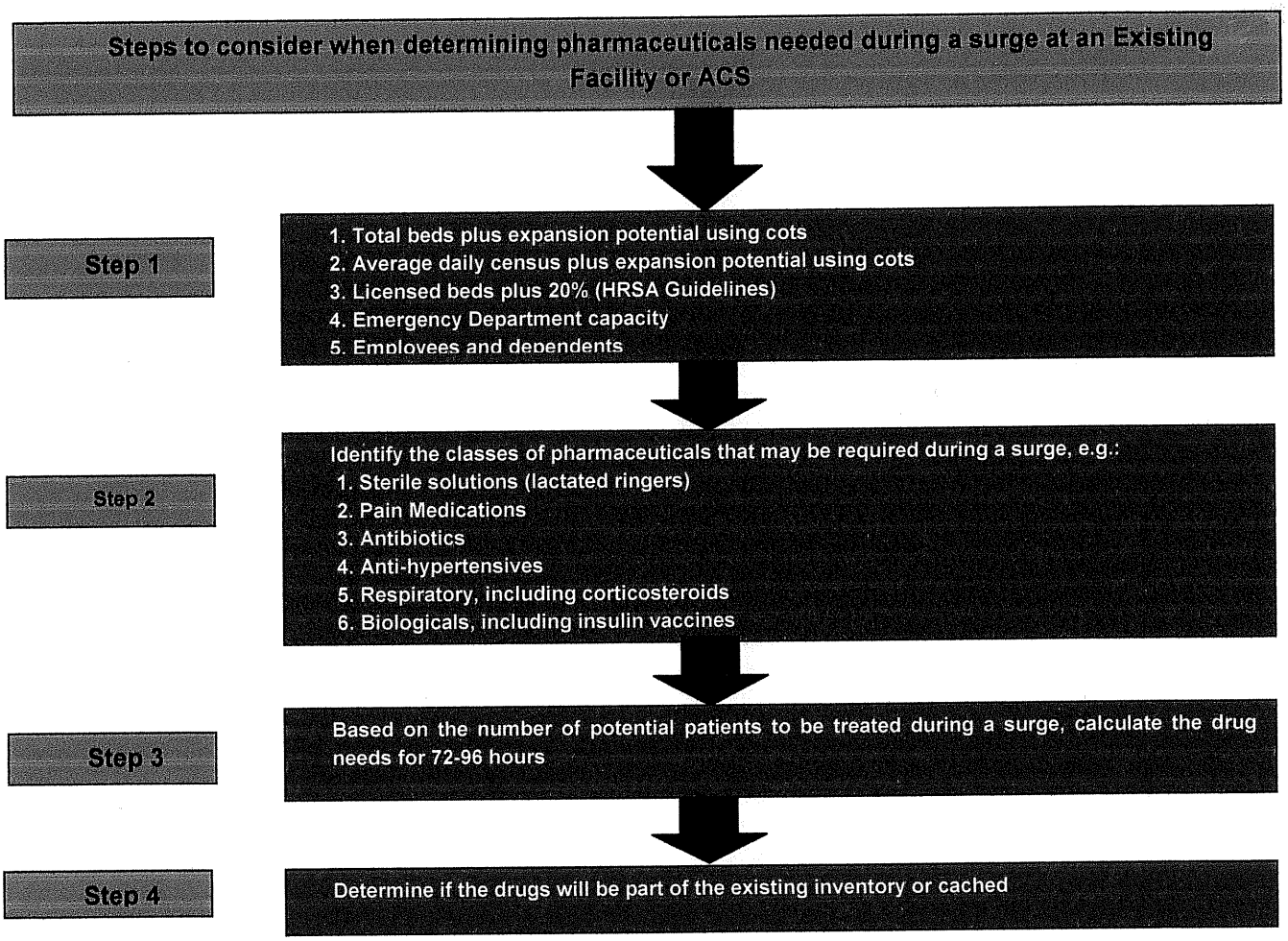
Step 5 — Based on Historical Data and vendor lead time, establish 72-96 hour par levels for these items

Draft Subject To Change

Tool 2 - Inventory Based – General

A facility may consider using the first tool to establish baseline inventory levels to maintain normal operations, and then attempt to estimate their patient capacity during a surge, e.g., what is the Emergency Department capacity? What is bed capacity if supplemented with cots? How many employees and dependents might require care?

Once total potential patient volume is estimated, the hospitals could define the classes of pharmaceuticals that may be required based on the unique needs of the community, e.g., proximity to a nuclear facility. Based on existing pharmaceutical contracts and utilization patterns, the hospital could then determine their unique pharmaceutical needs and adjust inventory levels accordingly. See the process flow below.



Tool 3 – Inventory Based – Specific

Similar to the second tool, a facility may consider using the first tool to establish baseline inventory levels to maintain normal operations, quantify their patient capacity during a surge, and define the classes of pharmaceuticals that may be required based on the unique needs of the community. Additionally, the facility could create customized drugs using those identified in the primary literature. Following the example below, a facility could create a spreadsheet and populate the data elements highlighted in yellow, e.g., package size, item number, etc. Collaboration among the various clinicians and leaders of the organization could lead to populating the doses required, the days of therapy required, and the development of MOUs with others in the area to minimize the need to carry excessive inventory. The spreadsheet could then calculate number of patients to be treated, doses required, and packages of pharmaceuticals to be stocked. See the process flow below.

Steps to consider when determining pharmaceuticals needed during a surge at an Existing Facility or ACS

Step 1

1. Total beds plus expansion potential using cots
2. Average daily census plus expansion potential using cots
3. Licensed beds plus 20% (HRSA Guidelines)
4. Emergency Department capacity
5. Employees and dependents

Step 2

Identify the types of events to plan for (e.g. biological, chemical, radiological)

Step 3

Identify the individual drugs to be used in each type of event

Step 4

Based on the number of potential patients to be treated during a surge, calculate the drug needs for 72-96 hours

Step 5

Determine if the drugs will be part of the existing inventory or cached

Step 6

Consider institution-specific formulary requirements, which may necessitate substitutions within a class to facilitate inventory management (e.g. ciprofloxacin vs. levoflaxacin and tobramycin vs. gentamicin)

Step 7

Identify those pharmaceuticals which may require minimal quantities on hand during the initial surge, and which could later be obtained from one of the SNS caches, e.g., Prussian Blue

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Below is a sample of the tool. The complete tool can be found in the appendix.

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Critical Pharmaceutical That May Be Used During a Surge

Sample Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Average Daily Census	Potential Surge Patients	ED Capacity	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)	Total Doses Required	# Packages to Stock	Alternate Sourc
Antidotes for Biological Agents														
Activated charcoal 50g slurry	NA	Oral												Hospital B keeps X in s
Cidofovir	75mg/ml	Injectable												
Ciprofloxacin	400mg	Injectable												
Ciprofloxacin	500mg	Oral												
Clindamycin	600mg	Injectable												
Doxycycline Hyclate	100mg	Injectable												
Doxycycline Hyclate	100mg	Oral												
Gentamicin Sulfate	10mg/ml	Injectable												
Gentamicin Sulfate	40mg/ml	Injectable												
Penicillin GK	20MU	Injectable												
Rifampin	300mg	Oral												
Streptomycin Sulfate	400mg/ml	Injectable												

Tool 4 – Surge Based, Event Specific

Similar to the previous tools, a facility may consider using Tool 1 to establish baseline inventory levels to maintain normal operations and then utilize a more global approach to planning. This tool uses HRSA estimates of casualties.[iv] Following the example below, a facility could create a spreadsheet and populate the data elements highlighted in yellow, e.g., county population. Collaboration among the various clinicians and leaders of the organization could lead to estimating the potential number of patients that might be seen in the organization. For example, if a county has a population of three million residents, and HRSA estimates 500 cases of infectious disease cases per one million, the facility could estimate how many of these 50 cases they could potentially receive based on the number of hospitals in the county, their current service level (e.g., trauma center vs. community hospital) and their location (e.g., urban vs. rural and any MOUs they may have in place.) The spreadsheet could then calculate doses required, and packages of pharmaceuticals to be stocked. See the process flow below.

Steps to consider when determining pharmaceuticals needed during a surge at an Existing Facility or ACS

Step 1

Quantify the Following:
1. County Population
2. Number of County Hospitals
3. Number of County Beds

Step 2

For each type of potential event, estimate the # of patients that may be treated in your facility. Consider the following when estimating:
1. The ability of other hospitals in the region to treat calamities (e.g. trauma center vs. small community hospital)
2. Your facility's surge capacity

Step 3

Identify the pharmaceuticals your organization would use in each type of surge event

Step 4

Determine if the drugs will be part of the existing inventory or cached

Step 5

Consider institution-specific formulary requirements, which may necessitate substitution within a class to facilitate inventory management (e.g. ciprofloxacin vs. levoflaxacin and tobramvcin vs. gentamicin)

Step 6

Identify those pharmaceuticals which may require minimal quantities on hand during the initial surge, and which could later be obtained from one of the SNS caches, e.g., Prussian Blue

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Pharmaceuticals That May Be Used During a Surge

County Population (in millions)	3	(e.g. Orange County)
Hospitals in County	29	
Beds in County	6337	
Potential County Infectious Disease Cases	1500	calculated based on HRSA estimate of 500 cases per 3 million
Estimated Potential Cases for Your Facility	10	(estimated)

Sample Infectious Diseases Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)	Total Doses Required	# Packages to Stock	Alternate Sources
Antidotes for Biological Agents											
Activated charcoal 50g slurry	NA	Oral				10					
Cidofovir	75mg/ml	Injectable				10					
Ciprofloxacin	400mg	Injectable				10					
Ciprofloxacin	500mg	Oral	100	12345678		10	1	3	30		
Clindamycin	600mg	Injectable				10					

*The complete Pharmaceutical list is located in the appendix.

Guidance for acquiring Supplies and Equipment in the pre-planning and in-surge phases

There are four tools (Tools 5-8) to consider when preparing for supplies and equipment needs during a surge. Similar to pharmaceuticals, the decision as to which methodology to use is site dependent based on the existing complexity of services offered and volume expectations during a surge. The objective is to address the needs of the diverse set of existing healthcare facilities and potential ACSs. Information from the Hazards Vulnerability Assessment should be utilized to assist in understanding site specific needs.

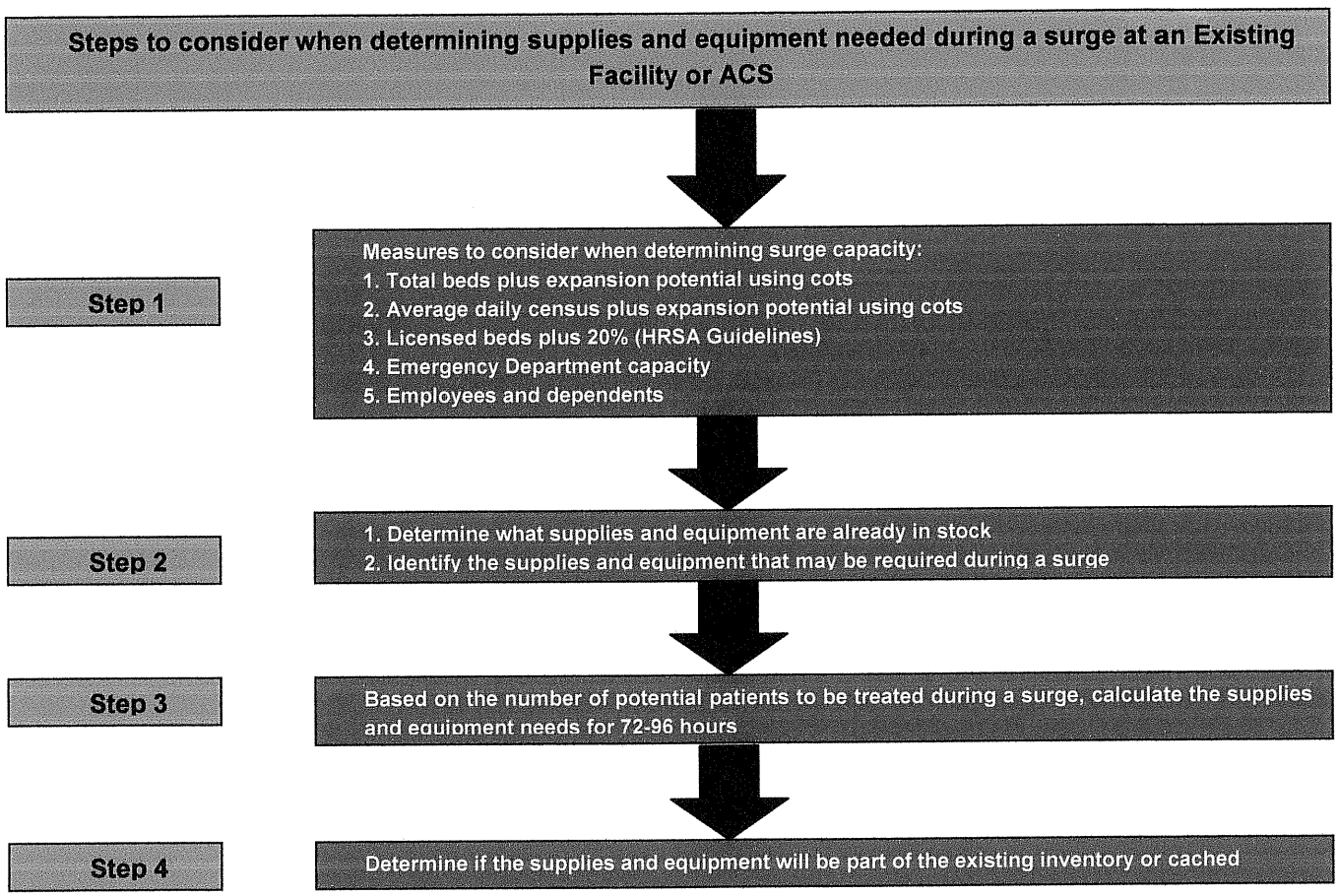
When resources allow, or are available within the community, strong consideration should be given to involving key stakeholders in the planning process that include but are not limited to:

- Materials Manager / Procurement
- Disaster Coordinator
- Emergency Department Director
- Respiratory Therapists
- Facilities / Logistics
- Medical-Surge Coordinator
- Critical Coordinator

Tool 5 – Inventory Based – Specifc

This tool encourages planners to utilize a comprehensive list to guide the ordering of specific supplies and equipment. It allows organizations the flexibility to define the classes of supplies and equipment and determine whether caches are better suited for their organization, or if increasing par levels of existing inventory is a better

strategy. The list that is used for reference is the Disaster Resource Center Medical/Surgical Supply Cache. This resource list was developed to address issues associated with surge capacity for hospitals and ACSs through the provision of supplies, pharmaceuticals, and equipment. This list should not be considered comprehensive, but should be used as a guide when considering the types of supplies and equipment are needed during a surge scenario assuming the existing facility has some stock of essential supplies and equipment. For sites other than hospitals such as an existing Physician's Office, Clinics, or Skilled Nursing Facilities (SNF), they could use both tool 5 from a hospital standpoint and tool 8 from an ACS standpoint and alter the lists according to their supply and equipment situation. In contrast to Tool 5, the ACS list assumes there are currently no supplies and equipment for use. See the process flow below.



The sample of the Disaster Resource Center Medical / Surgical Supply Cache list below has four columns which represent the following:

1. **Current Supply**: Stock on hand.
2. **Total Potential Requiring Treatment:** An estimate should be made to determine the facility's surge capacity.

3. **Package Size** (e.g.) 100/box, or simply 100.
4. **Quantity Cache**: Besides what is currently in the supply at the existing facility, what is the quantity that may be part of the facility's cache either on-site or near by.

SURGICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Scalpel with blade, disposable #10				
Scalpel with blade, disposable #15				
Sterile gloves, sizes 6.5, 7.0, 7.5, and 8.0				
Surgical scrub brushes with betadine				
Suture set (disposable)				
Suture removal kit				
Suture (Nylon sutures various sizes)				
ORTHOPEDIC SUPPLIES	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size (if applicable)**	**Quantity / Cache**
Splint, cardboard 12"				
Splint, cardboard 18"				
Splint, cardboard 24"				
Splint, cardboard 34"				
Splint, fiberglass 3"				
Splint, fiberglass 4"				
Splint, fiberglass 5"				

*The complete DRC Medical / Surgical Supply Cache is located in the Appendix.

Example: If using Average Daily Census (ADC) as a measure for a 100 bed hospital, a facility may strive to be 25% above their normal ADC for 72-96 hours.

Using this example, this facility would need to treat 125 patients for 72-96 hours. The facility should consider the following when determining which supplies and equipment to stock:

- What types of patients would a facility expect given the results of their HVA?
- What supplies and equipment would the facility specifically choose to stock?
- What supplies and equipment are also apart of the facility's cache?

Tool 6 – Inventory Based – General

This option requires detailed planning regarding volume of patients and considers the classes of supplies and equipment that may be required during a surge, as opposed to specific supplies and equipment in Tool 5. For example there are no sizes specified in this tool (e.g. scalpel with blade #10). This allows organizations the flexibility to define the types of supplies and equipment and determine whether caches are better suited for their organization, or if increasing par levels of existing inventory is a better strategy. The only difference between Tool # 5 and Tool # 6 is that this list is by category vs. specific supply or equipment item (e.g. exact sizes of supplies are not indicated). Similar to Tool 5, this list is taken from the 2006 Revised DRC list of supplies.

*See Steps 1-4 in Tool 5 for guidance in determining surge capacity and types of supplies and equipment that may be required during a surge.

Development of Standards and Guidelines for Healthcare Surge During Emergencies Supplies and Equipment that May Be Required During a Surge				
BANDAGES AND DRESSINGS	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Adhesive strips				
Alcohol pads				
Bandage elastic (Ace wraps-various sizes)				
Eye pad, oval sterile				
Eye Shields				
Morgan Lens				
Gauze				
Vaseline gauze				
SURGICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Scalpel with blade (various sizes)				
Sterile gloves (varoius sizes)				
Surgical scrub brushes with betadine				
Suture set (disposable)				
Suture removal kit				
Suture (Nylon sutures various sizes)				

*The image above is a sample of the tool. The complete list is found in the appendix.

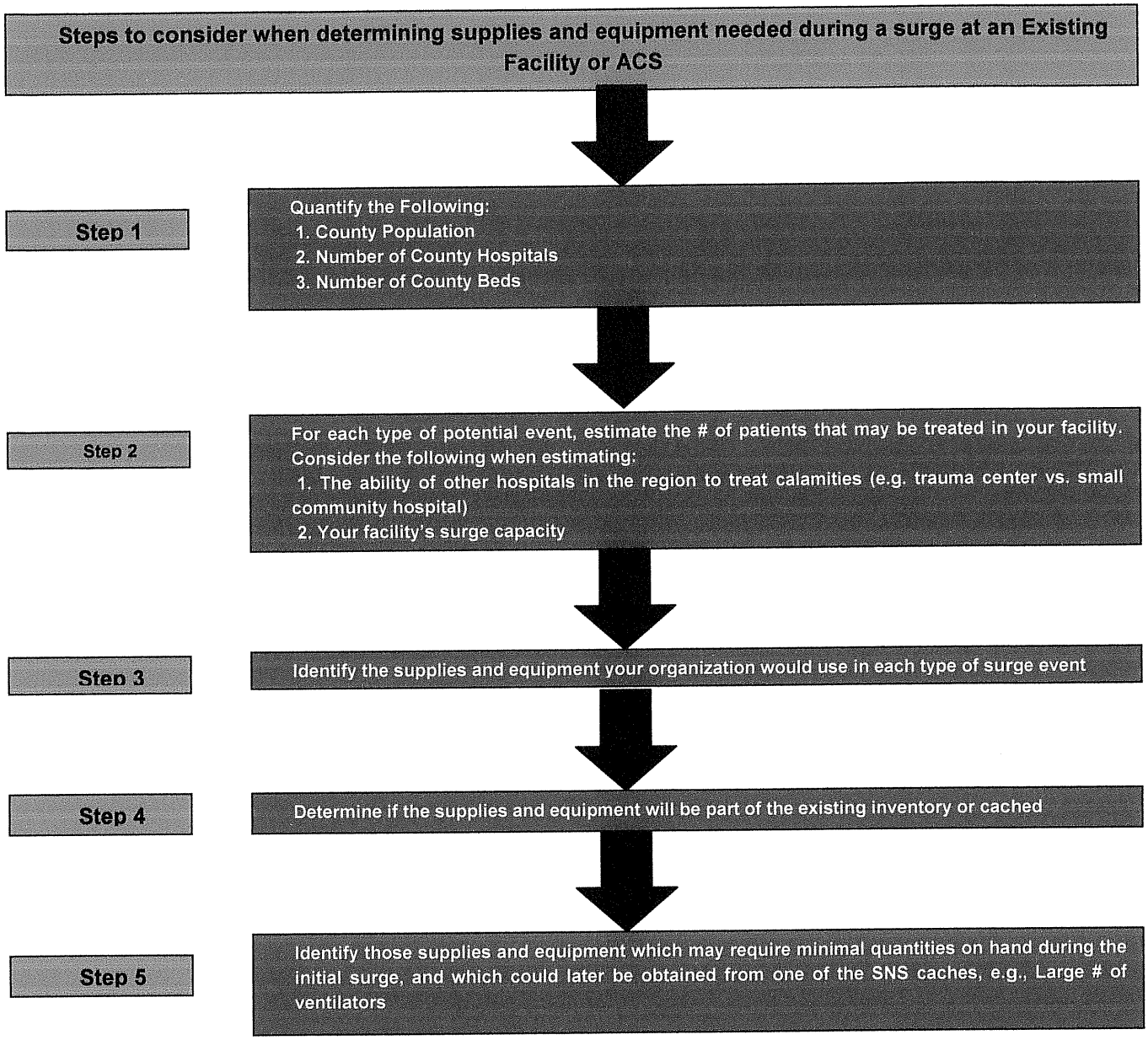
Tool 7 – Surge Based – Event Specific

This tool requires detailed planning regarding the volume of specific patient types based on HRSA guidelines, e.g., incidents per one million patients. Additionally, it allows organizations to select the supplies and equipment to be stocked based on the specific type of incident that might have a higher probability at the specific facility (e.g. a facility in a major metropolitan area with a higher probability of a nuclear incident).

HRSA Guidelines[v]:

- HRSA standards and surge capacity definition: The components necessary to care for a sudden, unexpected increase in patient volume that exceeds current capacity.
- The ability to care for 500 cases per one million population with infectious diseases, 50 cases per one million with chemical toxicity, 50 cases per one million with burns or trauma (blast) and 50 cases per one million with radiation injury within a 24-hour period.
- The goal is to be able to expand hospital capacity by 20-25% in the first 24 hours.

See the process flow below.



The sample of the Disaster Resource Center Medical / Surgical Supply Cache list below has four columns which represent the following:

1. **Current Supply**: Stock on hand.
2. **Total Potential Requiring Treatment:** An estimate should be made to determine the facility's surge capacity.
3. **Package Size** (e.g.) 100/box, or simply 100.
4. **Quantity Cache**: Besides what is currently in the supply at the existing facility, what is the quantity that may be part of the facility's cache either on-site or near by.

Development of Standards and Guidelines for Healthcare Surge During Emergencies Supplies and Equipment that May Be Required During a Surge				
County Population (in Millions)		**3**	**(e.g. Orange County)**	
Hospitals in County		**29**		
Beds in County		**6337**		
Potential County Infectious Disease Cases		**1500**		
Estimated Potential Cases for Your Facility		**10**	(estimated)	
BANDAGES AND DRESSINGS	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Adhesive strip, 1" X 3"				
Alcohol pads				
Bandage elastic (Ace wrap) 2"				
Bandage elastic (Ace wrap) 4"				
Bandage elastic (Ace wrap) 6"				
Bandage, gauze non sterile (kerlix) 4" X 10'				
Bandage, gauze non sterile 4X4				
Bandage 4X4 sterile				
Bandage 2X2 sterile				
Eye pad, oval sterile				
Eye Shields				
Morgan Lens				
Petroleum Gauze 5" X 9" (Xeroform)				
Vaseline gauze				
Gauze Pad 5" X 9" sterile				
Tape 1" transparent				

The image above is a sample of the tool. The complete list for use is found on in the appendix.

Example

Orange County with a population of 3 million has approximately 6,337 hospital beds in 29 hospitals. Using the HRSA guidance that there may be the potential for 500 patients per million with infectious diseases, both the county and the facility could estimate the potential cases they would expect [vi]. This offers those at the county level the ability to understand the difference between how many potential beds there are and how many potential cases there may be. The information may be vital in understanding the potential need for alternate care sites (See Tool 8) or care at smaller existing healthcare facilities that may not be normally used for extensive patient care (e.g. Physician offices). From a supplies and equipment perspective, this may be useful information especially in a pandemic situation or a prolonged surge. Examples of specific equipment that may be used during a prolonged surge include face masks, alcohol based hand gels hand gloves, gowns room isolation equipment.

A facility could create a spreadsheet and populate the data elements highlighted in yellow. Collaboration among the various clinicians and leaders of the organization could lead to the development of MOUs and relationships with others in the area to minimize the need to carry excessive inventory. The spreadsheet could then calculate number of patients to be treated, supplies and equipment needed, and packages of materials to be stocked.

Tool 8 – ACSs

At the ACS level, the assumption is that there may be no materials on hand and this tool offers guidance on what types of supplies and equipment that may be needed in a surge scenario. The tool provided is moderately comprehensive and it will depend on the function of each ACS to determine what specific supplies and equipment are needed. Due to the limited organization of an ACS the list offers more guidance for an individual(s) who may be tasked with ordering the extensive materials. This list was initiated by the California Department of Health Service's (CDHS) Emergency Planning Office (EPO). It represents 420 ACS caches that will soon be available statewide for the response to any of a number of "All-Hazards" events including, but not limited to earthquake, pandemic influenza. The intent of these caches is to offer support of medical/health care for 50 patients over a period of 10-14 days (actual results may vary based on event). These caches may be utilized in either established Alternate Care Sites or to supplement impacted existing healthcare facilities.

The list is separated into 9 groups:

1. IV Fluids
2. Bandages and Wound Management
3. Airway Intervention and Management
4. Immobilization
5. Patient Bedding, Gowns, Cots, Misc.
6. Healthcare Provider Personal Protective Equipment (PPE)
7. Exam Supplies
8. General Supplies
9. Defibrillators and Associated Supplies

The sample of the ACS Cache list below has five columns which represent the following:

1. **Item #**: A # to assign to the supply or piece of equipment.
2. **Group:** A # identifying which group the item is from (See the nine groups above).
3. **Item Description**: A description of the supply or equipment.
4. **Units**: Identifies how the items are packed (e.g. individually, box)
5. **Number (#)**: How many items.

Specific recommendations regarding the storage and staging of ACS supplies and equipment is noted in those aforementioned sections.

Draft Subject To Change

Development of Standards and Guidelines for Healthcare Surge During Emergencies				
		Alternate Care Site (ACS) Cache (updated April 11, 2007)		
Item #	Group (see below)	Item Description	Units	#
		IV Fluids		
1	1	Alcohol Pad, Isopropyl, Sterile, 2" x 2"	EA	2000
2	1	Arm Board, Padded, Long (Size = 3" x 18")	EA	24
3	1	Band-Aid (Coverlet Patches), 1-1/2" X 2"	EA	600
4	1	Catheter, (IV), 14G x 2" (LATEX FREE), Model = Medex Jelco #4048. NO SUBS	EA	5
5	1	Catheter, (IV), 16G x 1 1/4", Gray (Safety Tip) (LATEX FREE), Model = Medex Jelco #4072. NO SUBS	EA	20
6	1	Catheter, (IV), 18G x 1 1/4", Green (Safety Tip) (LATEX FREE), Model = Medex Jelco #4065. NO SUBS	EA	200
7	1	Catheter, (IV), 20G x 1 1/4", Pink (Safety Tip) (LATEX FREE), Model = Medex Jelco #4066. NO SUBS	EA	200
8	1	Catheter, (IV), 22G x 1", Blue (Safety Tip) (LATEX FREE), Model = Medex Jelco #4050. NO SUBS	EA	150
9	1	Catheter, (IV), 24G x 1", Yellow (Safety Tip) (LATEX FREE), Model = Medex Jelco #4063. NO SUBS	EA	100
10	1	IV Administration Set, 78", w/clamp, Vented (15 Drop) Macrodrip (LATEX FREE), Model = Amsino #AA3101, NO SUBS	EA	150
11	1	IV Administration Set, 78",w/clamp,Vented (60 Drop) Microdrip (LATEX FREE), Model = Amsino #608306, NO SUBS	EA	100
12	1	IV Fluid Bags, Normal Saline 100 ml, Model = Baxter #629122A, NO SUBS	EA	200
13	1	IV Fluid Bags, Normal Saline 1000 ml, Model = Baxter #2B1324X, NO SUBS	EA	500
14	1	IV Starter Set, Model = Dixie #783 NO SUBS	EA	100

*The image above is a sample of the tool. The complete list for use is found in the appendix.

Guidance for Acquiring Personal Protective Equipment (PPE) in the pre-planning and in-surge phases

When considering, PPE the primary use will be by personnel who require a greater degree of protection which includes proper equipment and training to sustain an all-hazard event response. This document will concentrate on the first receiver component of PPE. The Occupational Safety and Health Administration (OSHA) provide guidelines that many facilities currently use. Employers are required by OSHA to use PPE to limit employee exposure to hazards and employers must determine if PPE should be used for the protection of the employees. Under Cal/OSHA Labor Code 6401, every employer must furnish protective equipment, use safety devices and safeguards and provide training.

The environmental Protection Agency (EPA) and OSHA provide guidance on four levels of protection that can be used as a starting point. Ensemble must be customized to the particular situation to provide the proper level of protection.

PPE Considerations

There are many challenges that need to be considered for facilities managing PPE and training their staff and considerations for existing healthcare facilities to plan for are:

- Equipment is often outdated and must be current for appropriate use.
- PPE takes up a large amount of space.
- PPE is not made to fit all body types.
- The environment of employees to anticipate specific PPE needs.
- Durability of PPE materials (e.g. strength of materials).
- The effects of PPE in relation to heat stress.
- Needed layers of PPE for adequate protection
- Some PPE requires personnel to be in certain physical shape to withstand the masks and body equipment.
- PPE requires maintenance and can become ineffective if not preserved correctly.
- PPE and PPE training can be costly.
- Multiple types of equipment – Staff are often not cross-trained on multiple brands of equipment.
- PPE training is often limited or has a lack of participation.

Recommendations for the Selection of PPE

- Use a HVA to consider suspected hazards that may impact a facility and the potential hazard to employees (skin, ingestion, eye contact).
- Facilities should work with other existing healthcare facilities, their county, and the state of California to increase mutual aid interoperability.
- Facilities should be at least prepared for levels C and D, but equipment selection should be site specific.

Tool 9 – Inventory Based PPE

The tool below can assist in guiding staff with understanding what is needed at their facility based on what they currently have and what OSHA recommends.

The PPE guidance list is made of five unique levels. Each level is summarized below stressing the amount of protection required :

- Level A: Greatest level of protection required for skin, eye protection and respiratory.
- Level B: Greatest level of respiratory protection, but a lesser level of skin protection.
- Level C: Emphasis is on airborne substances and the criteria for using air purifying respirators must be met.

- Level D: A work uniform that provides minimal protection to safeguard against contamination.
- Chemical Ensemble: Emphasis on providing protection against toxic products which may enter the body through skin absorption or inhalation.

For greater detail, go the OSHA website at: http://www.osha.gov/SLTC/personalprotectiveequipment/index.html

The sample of the OSHA suggested ensemble list below has four columns which represent the following:

1. **Current Supply**: Stock on hand.
2. **Total Potential Requiring Treatment:** An estimate should be made to determine the facility's surge capacity to anticipate the quantity needed to be adequately prepared for a surge.
3. **Quantity Needed:** The quantity that is needed (Total Potential Requiring Treatment – Current Supply)
4. **Alternate Source**: Known sources where PPE can potentially acquired (e.g. other existing healthcare facilities).

Training Recommendations

- Due to the complexity of using PPE training at least one time / year with an annual competency that staff must pass.
- Decontamination exercises should be included in the training.
- Facilities should work with their local field representatives from their vendors and suppliers for formalized training.
- Target Audience is the following but not limited to:
  - Emergency Department staff – including Physicians, RN's
  - Respiratory Therapists
  - Radiologists

Development of Standards and Guidelines for Healthcare Surge During Emergencies Personal Protective Equipment that May Be Required During a Surge				
Suggested Components for Chemical Protective Ensemble:	Current Supply	Total Potential Requiring Treatment	Quantity Needed	Alternate Source
Protective clothing (suit, coveralls, hoods, gloves, boots)				
Respiratory equipment (SCBA, combination SCBA/ Supplied - Air Respirator (SAR), Powered Air Purifying Respirator (PAPR) Air Purifying Respirator (APR)				
Cooling system (ice vest, air circulation, water circulation)				
Communications device				
Head protection				
Eye protection				
Ear protection				
Inner garment				
Out protection (overgloves, overboots, flashcover)				
Suggested Ensemble Components – Level A	Current Supply	Total Potential Requiring Treatment	Quantity Needed	Alternate Source
A fully encapsulated, liquid and vapor protective ensemble selected when the highest level of skin, reparatory and eye protection is required				

*The image above is a sample and the comprehensive list can be found in the appendix.

Storage Considerations

Inventory Management

From a planning perspective, many healthcare facilities and public health organizations will have a stock of supplies, pharmaceuticals and equipment that must be maintained.

Pharmaceuticals

The inventory must be managed so the drugs can be effective when used. Therefore, there must be a process to monitor expiration dates and a process for rotating stock from a cache into the general inventory to minimize pharmaceuticals that may expire.

Supplies and Equipment

Items that require consistent maintenance need to be addressed. Equipment such as batteries for defibrillators and ventilators are a high priority because these items are used for life saving measures. Also, equipment that may be impacted by the environment such as ventilator seals, need to be maintained because they can become un-usable. Obsolescence is also essential to consider because supplies and equipment may become outdated due to technological advances or changes in ordering patterns. Personnel may not be knowledgeable on how to use equipment if it is obsolete and it can put a patient's life in danger. Lastly, space is a very important consideration. Many facilities have inadequate space to house their equipment and supplies and there needs to be a prioritization of what will be included in the storage space. Other options to space limitations include storing supplies and equipment at other facilities that may exist within their health system or using warehouse space

either on or off site.

Environmental Management

Pharmaceuticals and Supplies/Equipment

Pharmaceuticals and Supplies/Equipment have similar considerations regarding environmental management. The chemical nature of pharmaceuticals puts it at risk of an altered state which may impact the efficacy of the drug. Many pharmaceuticals are affected by temperature and have specific storage requirements such as room temperature or refrigeration. Also, pests can play a role in negatively influencing the nature of medications. There must be a process to monitor the environment of pharmaceuticals to meet United States Pharmacopeia (USP). Supplies and Equipment items are also impacted by temperature as significant variations can affect the durability and quality of the material. For example, there is PPE that must be stored at specific temperature. Facilities should ensure that manufacturer's storage guidelines are met.

Security

There is the need for security during a surge because of the potential disorganized environment that may occur. Resources may be scarce and there should be pre-planning for heightened security in a disaster state. The tool in the appendix addresses security needs by location type described below because of each one's unique need :

1. Existing Healthcare Facilities - Hospitals, Clinics, Skilled Nursing Facilities
2. Alternate Care Sites (ACSs)
3. Caches – Stockpiles of materials that are not considered part of the current inventory.

Pharmaceuticals and Supplies/Equipment

The recommendations for security regarding pharmaceuticals and supplies and Equipment at existing healthcare facilities, ACSs and Caches are similar. A process should be set up for the following:

- Ensuring the security of existing inventory and caches by utilizing personnel or security cameras.
- Controlling access into and within the building area.
- Identifying and tracking patients, staff, and visitors.
- Working with local authorities prior to a surge to address heightened security
- Working with private security entities prior to a surge to address heightened security.

It is important to note that the California Board of Pharmacy rules and regulations, Article 3, Section 4059.5.(a), supports that drugs may only be ordered by a licensed pharmacy and delivered to the licensed premises, and

must be signed for by a pharmacist.

Ease of Access

Staging of supplies, pharmaceuticals, and equipment to ensure ease of access is vital to accessing what is needed first. This is addressed in further detail in the Staging Section of this document.

Vendor Considerations

Many organizations rely on vendors for maintenance of their supplies and equipment. As a result, they need to consider the vendor or supplier who they acquire supplies, pharmaceuticals, and equipment from to ensure proper maintenance during storage. This group may play a large role in ensuring that materials work correctly during a surge. Below is list of considerations:

- Identify any "disaster clauses" within the contract with the vendor to understand what they are responsible for during a surge situation.
- Understand the process for the rotation of stock and inventory (control management).
- Understand the "days on hand" inventory of the vendors. This may guide the organizations determination on how much supplies, pharmaceuticals, and equipment to keep in their own stock.
- Clarify the process for how materials get delivered during a surge.
- Identify where materials will get delivered during a surge so there is one or more specific locations that delivery is expected.

*See the Checklist in the Appendix for Vendor Considerations.

Staging & Deployment of Supplies, Equipment, and Pharmaceuticals

Staging Considerations

Most hospitals have limited storage capacity, and most likely have insufficient disaster supply storage in close proximity to their designated disaster triage and treatment areas. Further, because disaster supplies are not routinely used, they are often relegated to the least convenient available space, sometimes in offsite warehouses. This can result in delays in care as hospitals try to retrieve their supplies from various storage locations.

Hospitals often organize their disaster supplies similar to other hospital materials – each item is stored with like items in the same location, e.g., cots are stored with cots, PAPR hoods are stored with PAPR hoods, medical supplies are stored with medical supplies, etc., and often different locations. This is an efficient means of monitoring and replenishing inventory under routine operating procedures; however it may not be optimal in a disaster response.

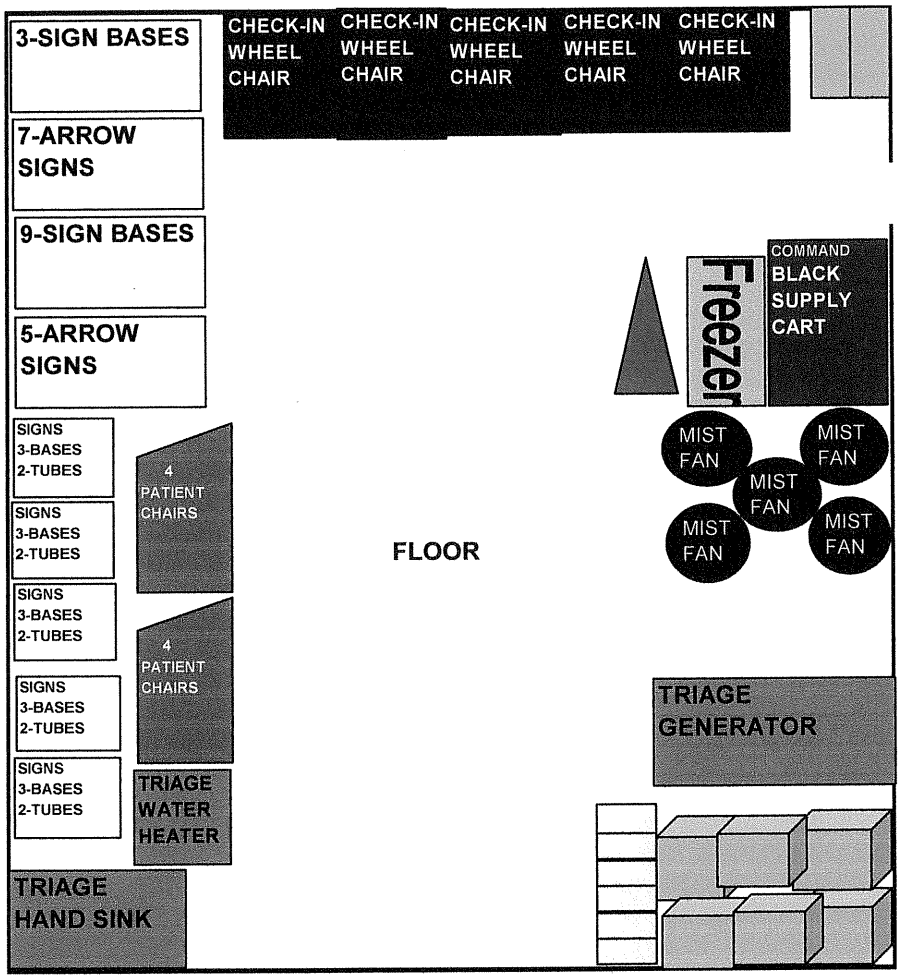
One option hospitals may wish to consider is identifying a small storage area near their designated disaster triage and treatment site. This area can be used for the "first push" of the supplies likely needed in the first moments of a crisis. For example, a small collection of cots, linens, gowns, medical supplies could be gathered here. If space allows, perhaps a casualty shelter (tent), lights, generator can be added. If environmental conditions are adequate, pharmaceutical supplies might be included. As the event evolves, and additional supplies are needed, the more remote storage areas

can be tapped to replenish or supplement the first push of supplies. Plans to retrieve the additional supplies should be activated as their first set is deployed.

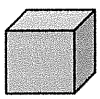
If space is sufficient, the "first push" supplies may be packaged in a cart or trailer to make deployment more rapid. Consideration should be given to the path of travel between the storage site and the destination, so that the chosen cart or trailer will successfully clear all obstacles. Further, a detailed inventory should accompany the first push of supplies, indicating "what" and "how many" of each item is immediately available, and where additional supplies are located so that they can be acquired by staff who may not be knowledgeable of how the supplies are organized and stored.[vii]

The appendix provides two sample methods on staging supplies and equipment at dispensing sites. that incorporates concepts above. Below is a sample of a bottom level of a Point of Dispensing (POD).[viii]

FRONT OF TRAILER

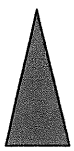


T.V. STANDS ON TOP OF T.V. MONITORS

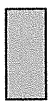


*** 6- T.V. MONITORS

*** 6- T.V. STANDS



***** 11- RED CONES



**** 6' & 4' LADDERS

Distribution / Deployment

Liability, Licensing, and Regulatory Implications

Once at the distribution point of supplies, pharmaceuticals, and equipment, there are many regulatory issues that are relevant during a surge. They include:

- Waivers
- The liability for dispensing expired medications.
- The liability for off-label drug usage.
- Determining what designated personnel are allowed to distribute and / or disperse mediations during a surge and what their liability is.
- The liability of pharmacists, intern pharmacists, or pharmacy technicians who are not licensed in California, but who are licensed in good standing in another state, including those presently serving military or civilian duty.
- The delivery of pharmaceuticals to licensed and un-licensed sites (e.g. delivery of medications to an un-licensed dispensing site).
- The liability of using supplies and equipment beyond the manufacturer's recommended use (e.g. PPE).
- The liability for Non-Governmental Organizations (NGOs) for the distribution of medical and health supplies.

The California State Board of Pharmacy Waiver

The California State Board of Pharmacy plays a large responsibility in the function of pharmacists who play an intricate role in patients receiving needed medications. In a recent response to the potential of a surge, the California State Board of Pharmacy created a Disaster Response Policy Statement in January 2007 to ensure proper preparation and an effective response to any local, state, or national disaster. The purpose of the policy statement and potential waivers as part of the California Business and Professions Code, section 4062, subdivision (b) is to encourage pharmacists to do everything possible to do the most good for the largest amount of people.

This policy highlights that in the event of declared disaster or emergency, the Board expects to utilize its authority under the California Business and Professions Code, including section 4062, subdivision (b) to encourage and permit emergency provision of care to affected patients and areas, including by waiver of requirements that it may be implausible to meet under these circumstances.[ix] This takes into account what would be otherwise normal operating procedures that may not be able to be addressed during a surge such as record-keeping requirements, labeling requirements, employee ratio requirements, consultation requirements and other standard pharmacy practices and duties that

may interfere with the most efficient response to those affected.

In the event of the waiver, the State of California Board of Pharmacy would communicate this information to the Office of Emergency Services (OES) for them to distribute the information. Information would also be posted on their website at www.pharmacy.ca.gov and communicated via phone @ (916) 574-7900.

The Board expects licensees to apply their judgment and training to provide medication to patients in the best interests of the patients with circumstances on the ground dictating the extent to which regulatory requirements can be met in affected areas. The Board expects that the highest standard of care possible will be provided, and once the emergency has dissipated, its licensees will return to practices conforming to state and federal requirements.[x]
*See the Disaster Response Policy Statement in the Appendix.

Use of Expired Medications

In a surge scenario, there is the potential for a shortage of appropriate medications. An example could be a pandemic flu outbreak. Specific virals and vaccines may be indicated and there may not be an adequate amount available for use. The government may prepare by stockpiling exactly for this type of situation and there is the possibility that the medications may become expired. This may become a dilemma if medical personnel have the indicated medication at their disposal, but question their liability in using the product and the efficacy of the medication to provide the desired results. Approved drugs are tested for stability and the expiration dates are based on those tests. However, most drugs remain stable far beyond the expiration date. The challenge is that the assumption cannot be made for all drugs.

Certain drug products have been qualified for shelf life extension through the Shelf Life Extension Program (SLEP), which is sponsored by the Department of Defense (DOD) and performed by the FDA. The SLEP is sponsored by the DOD because of the substantial savings to the government from extending the shelf life of certain antibiotics and other drug products that are stored in Federal stockpiles in large quantities under controlled conditions and are of strategic importance.
Absent are some approved shelf-life extension for specific drugs. The only way to determine the potency of drug stocks is to test. This is not a requirement that can be flexed by state law from a regulatory perspective.

Any restrictions on pharmacists dispensing expired drugs could be waived by the Pharmacy Board.
An emergency proclamation changing the standard of care could also provide protection.

Off – Label Drug Use

During a surge scenario, there is the possibility that the indicated medication for a diagnosis is not available. There may be other medications that have demonstrated effectiveness in the primary literature, but have not yet been granted FDA approval for a particular diagnosis. For example, many medications that are FDA-approved for antiarrthymic use are also effective for treating for hypertension. Some of the agents that are FDA-approved for depression also demonstrate effectiveness in treating pain.

If a drug is being used for off-label use, it means that the drug is approved by Federal Drug Administration (FDA), but the physician is using the drug for a use other than the one for which FDA gave the approval. The Federal Food, Drug & Cosmetic Act, Chapter V, Subchapter A, sec. 501(a) (2) (B) [21 USC 351] looks at the quality and purity characteristics of medications which are standards the FDA creates. Subsequent to a drug's approval, researchers often notice that the drug has other beneficial uses. Based on this published research, clinicians may prescribe the drug for this other use whether in a surge or not. Over time, use of the drug for this off-label use can become common practice, and be considered within the standard of care in the community.

There is no statutory or regulatory prohibition against off-label use of a drug by a physician. Consequently, pharmacists may dispense pharmaceuticals without being out of compliance. The only limitation on such off-label use is the law of medical malpractice. The more a drug is used for off-label purposes, the lower the likelihood that such use will be considered a breach of the standard of care owed to the patient. A proclamation of an emergency could include a provision making the standard of care the prevention of the greatest loss of life, which could allow some off label uses even if not generally accepted by the medical community, but consistent with the goal of saving a life.

Distribution and/or Dispensing of Pharmaceuticals by non-licensed Pharmacists

During a surge, there is a possibility that there may not be a licensed Pharmacist on-site to dispense pharmaceuticals or oversee the process from a liability perspective. The California Business and Professions Code, Section 4051 states that "it is unlawful for any person to manufacture, compound, furnish, sell, or dispense any dangerous device, or to dispense or compound any prescription pursuant to Section 4040 of a prescriber unless he or she is a pharmacist under this chapter.[xiv]" To address this, the California State Board of Pharmacy may waive application of any provisions of this chapter or the regulations adopted if, in the Pharmacy Board's opinion, the waiver will aid in the protection of public health or the provision of patient care during a declared federal, state, or local emergency as noted in California Business and Professions Code, Section 4062(b)

Out – of State Licensed Pharmacists, Intern Pharmacists and/or Pharmacy Technicians

With the possibility for limited Pharmacy staff in a surge scenario, many volunteers may present to

any location where care is being provided (e.g. hospital, ACS, clinic, dispensing site) to assist in providing services that a Pharmacist, Intern Pharmacist and/or Pharmacy Technician would provide under normal operating procedures. To effectively utilize this type of volunteer it is essential to prepare for this situation and understand their potential capacity and liability.

The California State Board of Pharmacy encourages that persons outside of California will assist the residents of California. In the event of a declared disaster or emergency, the Board expects to use it powers under the California Business and Professions Code, including section 900 and section 4062, subdivision (b) to allow any pharmacists, intern pharmacists, or pharmacy technicians, who are not licensed in California, but who are licensed in good standing in another state, including those presently serving military or civilian duty, to provide emergency pharmacy services in California[xii].

Nonresident pharmacies or wholesalers that are not licensed in California but that are licensed in good standing in another state are encouraged to ship medications to pharmacies, health professionals or other wholesalers in California.

Licensing of Dispensing Sites and Alternate Care Sites

As noted in the California Board of Pharmacy rules and regulations, Article 3, Section 4059.5.(a), drugs may only be ordered by a licensed pharmacy and delivered to the licensed premises, and must be signed for by a pharmacist.[xiii] To the extent possible, hospitals are encouraged to work with the Board of Pharmacy to identify ACSs during the planning phase in order to expedite approval. This would minimize any potential delays in getting pharmaceuticals delivered to ACSs in the event of a surge situation. A pharmacist's educational background and experience should be utilized in this situation to understand if the appropriate medications have been delivered in the correct quantities so they can then utilize the pharmaceuticals in the most efficient manner.

Furnishing Medications without a Prescription

During a surge, there may be limited time to receive a prescription from a Physician. Therefore Section 4062, subdivision (a) states that a Pharmacist may in good faith, furnish a dangerous drug or dangerous device in reasonable quantities without a prescription during a federal, state or local emergency, to further the health and safety of the public.[xiv] This section states that a record containing the date, name, and address of the person to whom the drug or device is furnished, and the name, strength, and quantity of the drug or device furnished shall be maintained. The pharmacist shall communicate this information to the patient's attending physician as soon as possible.

The Use of Supplies and Equipment beyond the Manufacturers Recommended Use

In a surge scenario there is the possibility that medical supplies and equipment may be used in a different manner than its intended use which brings into consideration liability and reimbursement. An

example is the use of an adult intubation kit on a pediatric patient.
The Federal Food, Drug & Cosmetic Act, Chapter V, Subchapter E, Sec. 564 [21 USC 360bbb-3] - Authorization for Medical Products for Use in Emergencies subdivision states that the Secretary may authorize the introduction into interstate commerce, during the effective period of a declaration under subsection (b), of a drug, device, or biological product intended for use in an actual or potential emergency (referred to in this section as an "emergency use").

It may be possible, through an emergency declaration changing the overall standard of care, to use equipment in a manner not recommended if the purpose is to save the life, and still receive compensation. This may not preclude liability lawsuits, but it could lessen the likelihood of a successful claim.

As for employees, and particularly with regard to Personal Protective Equipment (PPE), the liability would be for workers compensation benefits. The Labor Code requires that every employer furnish and use safety devices and safeguards, and adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render such employment and place of employment safe and healthful.

Liability for Non-Governmental Organizations (NGOs) for the distribution of medical and health supplies

There is potential for the state, regional areas and local healthcare facilities to have the need to utilize NGOs to access medical and health supplies. Because this may not be part of the normal process there can be concerns around liability. An NGO can be held liable in negligence just as any other organization. The liabilities for the distribution of medical and health supplies can be either regulatory (i.e., criminal), or civil (e.g., for damages).

Regulatory liabilities would arise where the item distributed is subject to regulatory controls and the NGO acts in violation of those controls, e.g., prescription drugs. Those controls could be waived by the Board of Pharmacy under section 4062(b) of the Business & Professions Code.

Civil liability for NGOs during a declared emergency would depend upon whether the NGO was functioning as a disaster service organization, i.e., all of its employees are functioning as disaster service workers. If so, the employee's would be immune to liability under Civil Code section 1714.5.

Also, the Governor could issue orders that require NGOs to carry out certain functions, and they would not have liability under Civil Code section 1714.6.

Long Term Recommendations

Examining the supply chain reveals that looking forward there needs to be modifications to the current system to be able handle a major surge. The long term recommendations at this time are to:

1. Develop a state-wide Database/System that enables the tracking of receipt and fulfillment of supplies, pharmaceutical, and equipment orders at each level of SEMS. The system should also enable real-time decision-making based on supply and demand (e.g. best practice of UPS, FED EX).
2. The creation of a Master Medical Health Mutual Aid Plan that enables the most effective use of resources at each level before escalating up the SEMS structure. This should include an aspect of inclusion of future anticipation of needs.

Supplies, Pharmaceuticals, and Equipment Glossary

- Pharmaceuticals: Any prescription medications, over-the-counter drugs and/or nutraceuticals administered to persons to diagnose, treat, or prevent disease or other abnormal conditions.[xv]

- Equipment: Fixed and portable equipment used for diagnosis, treatment, monitoring and direct care of individuals[xvi].

- Supplies: Durable and consumable goods which can be used in carrying out the treatment of a patient's illness or injury.

- Access: The process of acquiring supplies, pharmaceuticals, and equipment from various sources via procurement, stockpiles, caches, and other sources.
    - Procurement: The process of obtaining supplies, pharmaceuticals, and equipment via contracts, government requests, and mutual aid that includes an arrangement of payment. Procurement is a subset of access.

- Storage: The task of appropriately maintaining a supply of supplies, pharmaceuticals, and equipment that is readily accessible[xvii].

- Distribution: The allocation of supplies, pharmaceuticals, and equipment involving the mobilization and transfer of these materials from the loading point to the ordering entity.

- Stockpile Site: Place determined by each region to the location/locations for a cached of pharmaceuticals and medical supplies necessary to initially treat victims and caregivers until the Strategic National Stockpile (SNS) arrives.

Supplies, Pharmaceuticals, and Equipment

- Strategic National Stockpile (National Pharmaceutical Stockpile): A national repository of pharmaceuticals and medical supplies that may be needed for an all hazards event to supplement and re-supply State and Local Public Health Agencies and hospitals.

Pharmaceutical Storage Specific Definitions:
(Taken from the US Pharmocepia guidelines (USP)

- Freezer: A place in which the temperature is maintained thermostatically between -20 degrees Celsius (C) and -10 ° C (-4 ° Fahrenheit (F) and 14 ° F).

- Cold: Any temperature not exceeding 8 ° C (46 ° F). A refrigerator is a cold place in which the temperature is maintained thermostatically between 2 ° C and 8 ° C (36 ° - 46 ° F).

- Cool: Any temperature between 8 ° C and 15 ° C (46 ° - 59 ° F). An article that requires cool storage alternatively may be stored in a refrigerator, unless otherwise specified by the individual USP monograph.

- Room Temperature: The temperature prevailing in a working area.

- Controlled Room Temperature: A temperature maintained thermostatically that encompasses the usual and customary working environment of 20 ° C to 25 ° C (68 ° F - 77 ° F) that allows for brief deviations between 15 ° C and 30 ° C (59 ° F - 86 ° F) that are experienced in pharmacies, hospitals, and warehouses. Articles may be labeled for storage at "controlled room temperature" or at "up to 25 ° C ."

- Warm: Any temperature between 30 ° C and 40 ° C (86 ° - 104 ° F).

- Excessive Heat: Any temperature above 40 ° C (104 ° F).

- Protection from Freezing: Where, in addition to the risk of breakage of the container, freezing subjects an article to loss of strength or potency, or to destructive alteration of its characteristics, the container label must bear an appropriate instruction to protect the article from freezing.

Appendix

Tools 3-9

Tool 3 – Pharmaceutical – Inventory Based - Specific

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Critical Pharmaceutical That May Be Used During a Surge

Sample Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Average Daily Census	Potential Surge Patients	ED Capacity	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)
Antidotes for Biological Agents											
Activated charcoal 50g slurry	NA	Oral									
Cidofovir	75mg/ml	Injectable									
Ciprofloxacin	400mg	Injectable									
Ciprofloxacin	500mg	Oral	100	123456	500	100	50	3000	**3650**	1	3
Clindamycin	600mg	Injectable									
Doxcycline Hyclate	100mg	Injectable									
Doxcycline Hyclate	100mg	Oral									
Gentamicin Sulfate	10mg/ml	Injectable									
Gentamicin Sulfate	40mg/ml	Injectable									
Penicillin GK	20MU	Injectable									
Rifampin	300mg	Oral									
Streptomycin Sulfate	400mg/ml	Injectable									
Antidotes for Chemical Agents											
Amyl Nitrate 0.3ml. Crushable ampul		Inhaled									
Atropine Sulfate prefilled syringe	1mg/10ml	Injectable									
Atropine Sulfate multidose vial	8mg/20ml	Injectable									
Calcium Chloride	10mg/10ml	Injectable									
Calcium Gluconate 10%	10mg/100ml	Injectable									
Diazepam	5mg/ml	Injectable									
Dimeracaprol	100mg/ml	Injectable									
Diphenhydramine HCL	50mg/ml	Injectable									
Methylene Blue 1%	10mg/ml	Injectable									
Pralidoxime Chloride	1gm/20ml	Injectable									
Pyridostigmine Bromide	30 Or 60mg	Oral									
Pyridoxine HCL	3g/30ml	Injectable									
Sodium Nitrate		Injectable									
Sodium Thiosulfate	12.5mg/50ml	Injectable									
Antidotes for Radiological & Nuclear Agents											
Aluminum Hydroxide Suspension 240ml	NA	Oral									
Calcium Carbonate	1g	Oral									
Chlorthalidone	100mg	Oral									
Deferoxamine Mesylate	1g	Injectable									
Edetic Acid	200mg/ml	Injectable									
Furosemide	100mg/10ml	Injectable									
Magnesium Sulfate		Oral									
Magnesium Oxide		Oral									
Penicillamine											
Potassium Iodide	130mg	Oral									
Prussian Blue											
Sodium Iodide	130mg	Oral									
Trisodium Calcium Diethylenetriaminepentaacetat	1g	Injectable									
Trisodium Zinc Diethylenetriaminepentaacetate	1g	Injectable									

Tool 4 – Surge Based – Event Specific

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Critical Pharmaceutical That May Be Used During a Surge

Sample Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Average Daily Census	Potential Surge Patients	ED Capacity	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)
Drugs for Treating Acute Radiation Syndrome											
Acyclovir Sodium	25mg/ml	Injectable									
Acyclovir	400mg	Oral									
Antibacterial											
Cefepime HCL	1g	Injectable									
Filgrastim	300 µg/ml	Injectable									
Fluconazole	200mg/ml	Oral									
Ganciclovir	250-500mg	Oral									
Ganciclovir Sodium	500mg/ml	Injectable									
Ondansetron HCL	1mg/ml	Injectable									
Ondansetron HCL	1mg	Oral									
Ondansetron HCL	2mg/ml	Injectable									
Pegfilgrastim	6mg	Injectable									
Trimethoprim/Sulfamethoxazole	160mg/800mg	Oral									
Trimethoprim/Sulfamethoxazole		Injectable									
Vaccines											
Smallpox											
Tetanus Toxoid											
Anthrax Treatment											
Fluoroquinolone											
Doxycycline											
Amoxicillin											
Erythromycin											

Sources:

1)Guidelines for Managing Inpatient and Outpatient Surge Capacity . State of Wisconsin, 2005

2)Emergency Preparedness Resource Inventory (EPRI), A Tool for Local, Regional, and State PlannersAHRQ Publication, 2005

3) State of California Mass Prophylaxis Planning Guide, EMSA, June 2003.

4) Organization of a health system pharmacy team to respond to episodes of terrorism. Am J Health Syst Pharm Vol 60 Jun 15 2003

Draft Subject To Change

Supplies, Pharmaceuticals, and Equipment

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Pharmaceuticals That May Be Used During a Surge

County Population (in millions)	3	(e.g. Orange County)
Hospitals in County	29	
Beds in County	6337	
Potential County Infectious Disease Cases	1500	calculated based on HRSA estimate of 500 cases per 3 million
Estimated Potential Cases for Your Facility	10	(estimated)

Sample Infectious Diseases Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)	Total Doses Required	# Packages to Stock	Alternate Sources
Antidotes for Biological Agents											
Activated charcoal 50g slurry	NA	Oral				10					
Cidofovir	75mg/ml	Injectable				10					
Ciprofloxacin	400mg	Injectable				10					
Ciprofloxacin	500mg	Oral	100	12345678		10	1	3	30	1	MOA with UMC
Clindamycin	600mg	Injectable				10					
Doxcycline Hyclate	100mg	Injectable				10					
Doxcycline Hyclate	100mg	Oral				10					
Gentamicin Sulfate	10mg/ml	Injectable				10					
Gentamicin Sulfate	40mg/ml	Injectable				10					
Penicillin GK	20MU	Injectable				10					
Rifampin	300mg	Oral				10					
Streptomycin Sulfate	400mg/ml	Injectable				10					
Potential County Chemical Agent Cases	150										
Estimated Potential Cases for Your Facility	10										
Antidotes for Chemical Agents											
Amyl Nitrate 0.3ml. Crushable ampul		Inhaled									
Atropine Sulfate prefilled syringe	1mg/10ml	Injectable									
Atropine Sulfate multidose vial	8mg/20ml	Injectable									
Calcium Chloride	10mg/10ml	Injectable									
Calcium Gluconate 10%	10mg/100ml	Injectable									
Diazepam	5mg/ml	Injectable									
Dimeracaprol	100mg/ml	Injectable									
Diphenhydramine HCL	50mg/ml	Injectable									
Methylene Blue 1%	10mg/ml	Injectable									
Pralidoxime Chloride	1gm/20ml	Injectable									
Pyridostigmine Bromide	30 Or 60mg	Oral									
Pyridoxine HCL	3g/30ml	Injectable									
Sodium Nitrate		Injectable									
Sodium Thiosulfate	12.5mg/50ml	Injectable									

Draft Subject To Change

Supplies, Pharmaceuticals, and Equipment

Sample Infectious Diseases Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)	Total Doses Required	# Packages to Stock	Alternate Sources
Potential County Rad/Nuc Cases	150										
Estimated Potential Cases for Your Facility	10										
Antidotes for Radiological & Nuclear Agents											
Aluminum Hydroxide Suspension 240ml	NA	Oral									
Calcium Carbonate	1g	Oral									
Chlorthalidone	100mg	Oral									
Deferoxamine Mesylate	1g	Injectable									
Edetic Acid	200mg/ml	Injectable									
Furosemide	100mg/10ml	Injectable									
Magnesium Sulfate		Oral									
Magnesium Oxide		Oral									
Penicillamine											
Potassium Iodide	130mg	Oral									
Prussian Blue											
Sodium Iodide	130mg	Oral									
Trisodium Calcium Diethylenetriaminepentaacetate	1g	Injectable									
Trisodium Zinc Diethylenetriaminepentaacetate	1g	Injectable									
Potential County Radiation Cases	150										
Estimated Potential Cases for Your Facility	10										
Drugs for Treating Acute Radiation Syndrome											
Acyclovir Sodium	25mgml	Injectable									
Acyclovir	400mg	Oral									
Antidiarrheal											
Cefepime HCL	1g	Injectable									
Filgrastim	300ug/ml	Injectable									
Fluconazole	200mg/ml	Oral									
Ganciclovir	250-500mg	Oral									
Ganciclovir Sodium	500mg/ml	Injectable									
Granisetron HCL	1mg/ml	Injectable									
Granisetron HCL	1mg	Oral									
Ondansetron HCL	2mg/ml	Injectable									
Pegfilgrastim	6mg	Injectable									
Trimethoprim/Sulfamethoxazole	160mg/800mg	Oral									
Trimethoprim/Sulfamethoxazole		Injectable									

Supplies, Pharmaceuticals, and Equipment

Sample Infectious Diseases Pharmaceuticals Suggested During a Surge	Strength	Route of Administration	Package Size	Wholesaler Item #	Employees	Total Potential Requiring Treatment	Doses Needed per Patient per Day	Days of Therapy Required (Max of 3 Days)	Total Doses Required	# Packages to Stock	Alternate Sources
Vaccines											
Smallpox											
Tetanus Toxoid											
Anthrax Treatment											
Florquinolone											
Doxycycline											
Amoxicillin											
Erythromycin											

Sources:

1)Guidelines for Managing Inpatient and Outpatient Surge Capacity - State of Wisconsin, 2005

2)Emergency Preparedness Resource Inventory (EPRI), A Tool for Local, Regional, and State Planners AHRQ Publication, 2005

3) State of California Mass Prophylaxis Planning Guide, EMSA, June 2003.

4) State of Research in High- consequnce Hospital Surge Capacity, Carl H. Schultz, MD, Kristi L. Koenig, MD

5) Organization of a health-system pharmacy team to respond to episodes of terrorism, Am J Health-Syst Pharm-Vol 60 Jun 15,2003

HRSA Standards and Surge Capacity Definition:

The components necessary to care for a sudden, unexpected increase in patient volume that exceeds current capacity.

The ability to care for 500 cases per one million population with infectious diseases, 50 cases per one million with chemical toxicity, 50 cases per one million with burns or trauma (blast), and 50 cases per one million with radiation injury within a 24-hour period.

Tool 5 – Inventory Based - Specific

Development of Standards and Guidelines for Healthcare Surge During Emergencies Supplies and Equipment that May Be Required During a Surge				
BANDAGES AND DRESSINGS	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size (if applicable)**	**Quantity / Cache**
Adhesive strip, 1" X 3"				
Alcohol pads				
Bandage elastic (Ace wrap) 2"				
Bandage elastic (Ace wrap) 4"				
Bandage elastic (Ace wrap) 6"				
Bandage, gauze non sterile (kerlix) 4" X 10'				
Bandage, gauze non sterile 4X4				
Bandage 4X4 sterile				
Bandage 2X2 sterile				
Eye pad, oval sterile				
Eye Shields				
Morgan Lens				
Petroleum Gauze 5" X 9" (Xeroform)				
Vaseline gauze				
Gauze Pad 5" X 9" sterile				
Tape 1" transparent				
SURGICAL SUPPLIES	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size (if applicable)**	**Quantity / Cache**
Scalpel with blade, disposable #10				
Scalpel with blade, disposable #15				
Sterile gloves, sizes 6.5, 7.0, 7.5, and 8.0				
Surgical scrub brushes with betadine				
Suture set (disposable)				
Suture removal kit				
Suture (Nylon sutures various sizes)				

ORTHOPEDIC SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Splint, cardboard 12"				
Splint, cardboard 18"				
Splint, cardboard 24"				
Splint, cardboard 34"				
Splint, fiberglass 3"				
Splint, fiberglass 4"				
Splint, fiberglass 5"				

IV SETS, NEEDLES AND SYRINGES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
IV Start Kits				
IV catheter, 18 gauge				
IV catheter, 20 gauge				
IV catheter, 22 gauge				
IV catheter, 24 gauge				
IV administration set, adult				
IV administration set, pediatric				
IV piggyback tubing				
Needle disposable, 18 gauge				
Needle disposable, 22 gauge				
Needle disposable, 25 gauge				
Syringe, 1ml				
Syringe, 3 ml				
Syringe, 5 ml				
Syringe, 10 ml				
Syringe, 20 ml				
Syringe, 35cc, for wound irrigation				
Syringe/needle, 3 ml, 22gauge X 1 ½"				
Syringe/needle, 1 ml, 25 gauge X 5/8"				
Syringe/needle 1 ml, 29 gauge X ½"				
Sharps container				

Supplies, Pharmaceuticals, and Equipment

AIRWAY MANAGEMENT SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Bag-valve-mask, adult				
Bag-valve-mask, pediatric				
Airway adjunct, OP Airway				
Airway adjunct, NP Airway				
Cricothyrotomy / Shiley 4				
Endotracheal tube, cuffed 8mm				
Endotracheal tube, cuffed, 7.5mm				
Endotracheal tube, cuffed 7mm				
Endotracheal tube, cuffed, 6mm				
Endotracheal tube, cuffed 2.5mm				
Endotracheal tube, cuffed 3mm				
Endotracheal tube, cuffed, 4mm				
Endotracheal tube, cuffed, 4.5mm				
Endotracheal tube, cuffed, 5mm				
Endotracheal tube, cuffed, 5.5mm				
Endotracheal tube, non-cuffed, 2.5mm				
Endotracheal tube, non-cuffed, 3mm				
Endotracheal tube, non-cuffed, 4mm				
Endotracheal tube, non-cuffed, 5mm				
ETT Holders				
Intubation kit, incl. Blades, medium handle, stylet and case – including magill forceps				
Intubation kit (Pediatrics) , incl. Blades, medium handle, stylet and case – including magill forceps				
Nasal cannula, adult				
Nasal cannula, pediatric				
02 mask with tubing, pediatric				
02 mask with tubing, adult				
02 mask - non-rebreather, adult				
Nebulizers – hand held				
Nebulizers – masks				
Ventilator circuits				
Suction machine, portable				
Suction catheters 10 french				
Suction catheters 12 french				
Suction catheters 14 french				
Yankauer suction				
Suction tubing				
Suction Canisters				
NG Tubes				
Thoracostomy Tubes, assorted sizes				
Pleurivac & Heimlich valves				

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Supplies, Pharmaceuticals, and Equipment

INFECTION CONTROL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Cover/Isolation gowns				
Splash guard for wound irrigation				
Masks surgical				
Face shield with eye shield				
Masks N-95				
Patient exam gloves, small				
Patient exam gloves, medium				
Patient exam gloves, large				
Shoe covers				
Surgical caps				
Wipes, disposable				

MISCELLANEOUS SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Bags, plastic 30 gallon, 8 mil				
Batteries, C for laryngoscope handle				
Batteries, D for flashlights				
Blankets lightweight				
Clipboards				
Diapers, disposable large				
Diapers, disposable medium				
Diapers, disposable small				
Diapers, disposable, large, peds				
Diapers, disposable, medium, peds				
Diapers, disposable, small, peds				
Emesis basins, plastic				
Facial tissues				
Flashlights				
Gloves work type leather/canvas				
OB kits, disposable				
Paper towels				
Patient ID bands				
Styrofoam cups				
Tongue depressors, non sterile				

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Supplies, Pharmaceuticals, and Equipment

NON-DISPOSABLE MEDICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Blood Pressure multi-cuff kit with adult, pediatric, infant and thigh cuff				
Glucometer kit with lancets, test strips and battery				
Portable Otoscope/Ophthalmoscope set with batteries				
Pulse Oximetry, portable				
Stethoscope				
Tourniquets 1"				
Trauma/paramedic scissors				

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Tool 6 – Inventory Based - General

Development of Standards and Guidelines for Healthcare Surge During Emergencies Supplies and Equipment that May Be Required During a Surge				
BANDAGES AND DRESSINGS	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Adhesive strips				
Alcohol pads				
Bandage elastic (Ace wraps-various sizes)				
Eye pad, oval sterile				
Eye Shields				
Morgan Lens				
Gauze				
Vaseline gauze				
SURGICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Scalpel with blade (various sizes)				
Sterile gloves (varoius sizes)				
Surgical scrub brushes with betadine				
Suture set (disposable)				
Suture removal kit				
Suture (Nylon sutures various sizes)				
ORTHOPEDIC SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Splint, cardboard / fiberglass				

Supplies, Pharmaceuticals, and Equipment

IV SETS, NEEDLES AND SYRINGES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
IV Start Kits				
IV catheter (various sizes)				
IV administration set (adult / pediatric)				
IV tubing				
Needle disposable (various sizes)				
Syringe, 1ml				
Syringes (various sizes)				
Syringe/needles				
Sharps container				
AIRWAY MANAGEMENT SUPPLIES	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size**	**Quantity / Cache**
Bag-valve-mask, (adult / pediatric)				
Airway adjunct, OP Airway / NP Airway				
Cricothyrotomy / Shiley 4				
Endotracheal tube (cuff/non-cuffed)- various sizes				
ETT Holders				
Intubation kit, incl. Blades, medium handle, stylet and case – including magill forceps				
Intubation kit (Pediatrics) , incl. Blades, medium handle, stylet and case – including magill forceps				
Nasal cannula (adult / pediatric)				
Nebulizers				
Ventilator circuits				
Suction machine				
Suction catheters				
Yankauer suction				
Suction tubing				
Suction Canisters				
NG Tubes				
Thoracostomy Tubes, assorted sizes				
Pleurivac & Heimlich valves				

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Supplies, Pharmaceuticals, and Equipment

INFECTION CONTROL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Cover/Isolation gowns				
Splash guard for wound irrigation				
Masks surgical				
Face shield with eye shield				
Masks N-95				
Patient exam gloves (various sizes)				
Shoe covers				
Surgical caps				
Wipes, disposable				
MISCELLANEOUS SUPPLIES	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size**	**Quantity / Cache**
Bags, plastic 30 gallon, 8 mil				
Batteries, C for laryngoscope handle				
Batteries, D for flashlights				
Blankets lightweight				
Clipboards				
Diapers, disposable large				
Diapers, disposable medium				
Diapers, disposable small				
Diapers, disposable, large, peds				
Diapers, disposable, medium, peds				
Diapers, disposable, small, peds				
Emesis basins, plastic				
Facial tissues				
Flashlights				
Gloves work type leather/canvas				
OB kits, disposable				
Paper towels				
Patient ID bands				
Styrofoam cups				
Tongue depressors, non sterile				

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Supplies, Pharmaceuticals, and Equipment

NON-DISPOSABLE MEDICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size	Quantity / Cache
Blood Pressure multi-cuff kit (various sizes)				
Glucometer kit with lancets, test strips and battery				
Portable Otoscope/Ophthalmoscope set with batteries				
Pulse Oximetry				
Stethoscope				
Tourniquets 1"				
Trauma/paramedic scissors				

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Tool 7 – Surge Based – Event Specific

Development of Standards and Guidelines for Healthcare Surge During Emergencies
Supplies and Equipment that May Be Required During a Surge

County Population (in Millions)		3	(e.g. Orange County)	
Hospitals in County		29		
Beds in County		6337		
Potential County Infectious Disease Cases		1500		
Estimated Potential Cases for Your Facility		10	(estimated)	

BANDAGES AND DRESSINGS	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Adhesive strip, 1" X 3"				
Alcohol pads				
Bandage elastic (Ace wrap) 2"				
Bandage elastic (Ace wrap) 4"				
Bandage elastic (Ace wrap) 6"				
Bandage, gauze non sterile (kerlix) 4" X 10'				
Bandage, gauze non sterile 4X4				
Bandage 4X4 sterile				
Bandage 2X2 sterile				
Eye pad, oval sterile				
Eye Shields				
Morgan Lens				
Petroleum Gauze 5" X 9" (Xeroform)				
Vaseline gauze				
Gauze Pad 5" X 9" sterile				
Tape 1" transparent				

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Supplies, Pharmaceuticals, and Equipment

SURGICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Scalpel with blade, disposable #10				
Scalpel with blade, disposable #15				
Sterile gloves, sizes 6.5, 7.0, 7.5, and 8.0				
Surgical scrub brushes with betadine				
Suture set (disposable)				
Suture removal kit				
Suture (Nylon sutures various sizes)				
ORTHOPEDIC SUPPLIES	**Current Supply**	**Total Potential Requiring Treatment**	**Package Size (if applicable)**	**Quantity / Cache**
Splint, cardboard 12"				
Splint, cardboard 18"				
Splint, cardboard 24"				
Splint, cardboard 34"				
Splint, fiberglass 3"				
Splint, fiberglass 4"				
Splint, fiberglass 5"				

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Supplies, Pharmaceuticals, and Equipment

IV SETS, NEEDLES AND SYRINGES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
IV Start Kits				
IV catheter, 18 gauge				
IV catheter, 20 gauge				
IV catheter, 22 gauge				
IV catheter, 24 gauge				
IV administration set, adult				
IV administration set, pediatric				
IV piggyback tubing				
Needle disposable, 18 gauge				
Needle disposable, 22 gauge				
Needle disposable, 25 gauge				
Syringe, 1ml				
Syringe, 3 ml				
Syringe, 5 ml				
Syringe, 10 ml				
Syringe, 20 ml				
Syringe, 35cc, for wound irrigation				
Syringe/needle, 3 ml, 22gauge X 1 ½"				
Syringe/needle, 1 ml, 25 gauge X 5/8"				
Syringe/needle 1 ml, 29 gauge X ½"				
Sharps container				

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Supplies, Pharmaceuticals, and Equipment

AIRWAY MANAGEMENT SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Bag-valve-mask, adult				
Bag-valve-mask, pediatric				
Airway adjunct, OP Airway				
Airway adjunct, NP Airway				
Cricothyrotomy / Shiley 4				
Endotracheal tube, cuffed 8mm				
Endotracheal tube, cuffed, 7.5mm				
Endotracheal tube, cuffed 7mm				
Endotracheal tube, cuffed, 6mm				
Endotracheal tube, cuffed 2.5mm				
Endotracheal tube, cuffed 3mm				
Endotracheal tube, cuffed, 4mm				
Endotracheal tube, cuffed, 4.5mm				
Endotracheal tube, cuffed, 5mm				
Endotracheal tube, cuffed, 5.5mm				
Endotracheal tube, non-cuffed, 2.5mm				
Endotracheal tube, non-cuffed, 3mm				
Endotracheal tube, non-cuffed, 4mm				
Endotracheal tube, non-cuffed, 5mm				
ETT Holders				
Intubation kit, incl. Blades, medium handle, stylet and case – including magill forceps				
Intubation kit (Pediatrics) , incl. Blades, medium handle, stylet and case – including magill forceps				
Nasal cannula, adult				
Nasal cannula, pediatric				
02 mask with tubing, pediatric				
02 mask with tubing, adult				
02 mask - non-rebreather, adult				
Nebulizers – hand held				
Nebulizers – masks				
Ventilator circuits				
Suction machine, portable				
Suction catheters 10 french				
Suction catheters 12 french				
Suction catheters 14 french				
Yankauer suction				
Suction tubing				
Suction Canisters				
NG Tubes				
Thoracostomy Tubes, assorted sizes				
Pleurivac & Heimlich valves				

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Supplies, Pharmaceuticals, and Equipment

INFECTION CONTROL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Cover/Isolation gowns				
Splash guard for wound irrigation				
Masks surgical				
Face shield with eye shield				
Masks N-95				
Patient exam gloves, small				
Patient exam gloves, medium				
Patient exam gloves, large				
Shoe covers				
Surgical caps				
Wipes, disposable				

MISCELLANEOUS SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Bags, plastic 30 gallon, 8 mil				
Batteries, C for laryngoscope handle				
Batteries, D for flashlights				
Blankets lightweight				
Clipboards				
Diapers, disposable large				
Diapers, disposable medium				
Diapers, disposable small				
Diapers, disposable, large, peds				
Diapers, disposable, medium, peds				
Diapers, disposable, small, peds				
Emesis basins, plastic				
Facial tissues				
Flashlights				
Gloves work type leather/canvas				
OB kits, disposable				
Paper towels				
Patient ID bands				
Styrofoam cups				
Tongue depressors, non sterile				

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Supplies, Pharmaceuticals, and Equipment

NON-DISPOSABLE MEDICAL SUPPLIES	Current Supply	Total Potential Requiring Treatment	Package Size (if applicable)	Quantity / Cache
Blood Pressure multi-cuff kit with adult, pediatric, infant and thigh cuff				
Glucometer kit with lancets, test strips and battery				
Portable Otoscope/Ophthalmoscope set with batteries				
Pulse Oximetry, portable				
Stethoscope				
Tourniquets 1"				
Trauma/paramedic scissors				

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Tool 8 - ACSs

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Alternate Care Site (ACS) Cache (updated April 11, 2007)

Item #	Group (see below)	Item Description	Units	#
		IV Fluids		
1	1	Alcohol Pad, Isopropyl, Sterile, 2" x 2"	EA	2000
2	1	Arm Board, Padded, Long (Size = 3" x 18")	EA	24
3	1	Band-Aid (Coverlet Patches), 1-1/2" X 2"	EA	600
4	1	Catheter, (IV), 14G x 2" (LATEX FREE), Model = Medex Jelco #4048. NO SUBS	EA	5
5	1	Catheter, (IV), 16G x 1 1/4", Gray (Safety Tip) (LATEX FREE), Model = Medex Jelco #4072. NO SUBS	EA	20
6	1	Catheter, (IV), 18G x 1 1/4", Green (Safety Tip) (LATEX FREE), Model = Medex Jelco #4065. NO SUBS	EA	200
7	1	Catheter, (IV), 20G x 1 1/4", Pink (Safety Tip) (LATEX FREE), Model = Medex Jelco #4066. NO SUBS	EA	200
8	1	Catheter, (IV), 22G x 1", Blue (Safety Tip) (LATEX FREE), Model = Medex Jelco #4050. NO SUBS	EA	150
9	1	Catheter, (IV), 24G x 1", Yellow (Safety Tip) (LATEX FREE), Model = Medex Jelco #4063. NO SUBS	EA	100
10	1	IV Administration Set, 78", w/clamp, Vented (15 Drop) Macrodrip (LATEX FREE), Model = Amsino #AA3101, NO SUBS	EA	150
11	1	IV Administration Set, 78",w/clamp,Vented (60 Drop) Microdrip (LATEX FREE), Model = Amsino #608306, NO SUBS	EA	100
12	1	IV Fluid Bags, Normal Saline 100 ml, Model = Baxter #629122A, NO SUBS	EA	200
13	1	IV Fluid Bags, Normal Saline 1000 ml, Model = Baxter #2B1324X, NO SUBS	EA	500
14	1	IV Starter Set, Model = Dixie #783 NO SUBS	EA	100
15	1	Needle, 18 G x 1.5", Safety Tip, Model = Exel International #26420. NO SUBS	EA	120
16	1	Needle, 22 G x 1" or 1-1/4", Model = Exel International #26411. NO SUBS	EA	100
17	1	Needle, 25 G x 1-1/4", Safety Tip, Model = Exel International #26406. NO SUBS	EA	120
18	1	Needle, Butterfly, 21G x 3/4", Safety Tip (LATEX FREE), Model = Exel International #26704. NO SUBS	EA	50
19	1	Needle, Vacutainer, 21G, Safety Tip	EA	75
20	1	Saline Locks, Model = Amsino #AE3108 NO SUBS	EA	200
21	1	Tourniquet, 1" x 18", Disposable, (LATEX FREE)	EA	100

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Supplies, Pharmaceuticals, and Equipment

Bandages and Wound Management				
23	2	Bandage, ("ACE type") Elastic, 4" x 4.5 yds(LATEX FREE), Model = Dynarex #3664 NO SUBS	EA	200
24	2	Bandage, Kerlix, Sterile, 4.5" x 4.1 Yd, Model = Medline #80342	EA	400
25	2	Bandage, Triangular, Model = ADI Medical #23040 NO SUBS	EA	150
26	2	Band-Aid, Sterile, 2" x 4.5", Model = Dynarex #3634 NO SUBS	EA	600
27	2	Cotton Tip, Sterile, Applicators, Model = Dynarex #4305 NO SUBS	EA	500
28	2	Forceps, Adult, Model = Magill #2760, NO SUBS	EA	8
29	2	Forceps, Pediatric, Model = Magill #2750, NO SUBS	EA	4
30	2	Gauze, 4x4 packs non-sterile (100 quantity per pack)	PACK	20
31	2	Irrigation Kit, Type 1, w/Syringe, Model = Amsino #AS130. NO SUBS	EA	25
32	2	Pack, Cold, Crush Activated	EA	300
33	2	Pad, ABD/COMBINE, Sterile, Model = Dynarex #3501 NO SUBS	EA	120
34	2	Pad, Chux (17" x 24")	EA	400
35	2	Pad, Eye Sterile (box of 50) Model = Dukal #841B NO SUBS	Box	1
36	2	Shears, Trauma, Model = Dixie #1800011 NO SUBS	EA	17
37	2	Suture Removal Kit, Sterile, Kit includes: 1 - Plastic tray w/ lid, 1 - Littauer scissors, 1 - 4" metal forceps, 1 - gauze sponge.	EA	10
38	2	Suture, Ethilon, Black Monofilament, 3-0, 18"	EA	22
39	2	Suture, Ethilon, Black Monofilament, 4-0, 18"	EA	44
40	2	Suture, Ethilon, Black Monofilament, 5-0, 18"	EA	22
41	2	Suture, Kit - Laceration Tray, Each kit must include: 2 - Medicine Cups - 60cc; 1 - Needle - 18g x 1-1/2"; 1 - Tray - Rectangular; 1 - Needle - 25g x 1-1/2"; 1 - Clamp - Mosquito, Curved; 1 - Needle - 27g x 1/2"; 1 - Syringe - 10cc, Luer Lock; 1 - Needle	EA	20
42	2	Suture, Silk, Black Braided, 2-0, 12-18"	EA	22
43	2	Suture, Stapler Remover	EA	33
44	2	Suture, Surgical Stapler, 15 pack, Regular Model = Conmed Reflex 8535 NO SUBS	EA	5
45	2	Suture, Vicryl, Coated, Undyed Braided, 4-0, 27"	EA	30
46	2	Suture, Vicryl, 5-0	EA	8
47	2	Safety Pins, Large	EA	144
48	2	Syringe/Needle 22g	EA	200
49	2	Syringe/Needle, (1cc) w/ 28g Needle (Safety Tip), Insulin (LATEX FREE)	EA	300
50	2	Syringe/Needle, Disposable, (3 cc) w/21g x 1- 1/2" Needle (Safety Tip) (LATEX FREE)	EA	150
51	2	Syringe/Needle, Disposable, (5cc) or (6cc) w/20g x l-1/2" Needle (LATEX FREE)	EA	150
52	2	Syringe, Catheter Tip, Disposable (30 cc) (LATEX FREE), Model = Exel International #26292 NO SUBS	EA	50
53	2	Syringe, Luer-Lok, Disposable (20 cc) (LATEX FREE), Model = Amsino AS2220D NO SUBS	EA	50
54	2	Syringe, Luer-Lok, Disposable (30 cc) (LATEX FREE), Model = Amsino AS2230D NO SUBS	EA	50
55	2	Syringe, Luer-Lok, Disposable (10 cc) (LATEX FREE), Model = Amsino AS2210D NO SUBS	EA	150
56	2	Tape, Surgical, Micropore (1") Model = Dynarex #3553 NO SUBS	EA	100
57	2	Tissue Adhesive, Brand = Johnson & Johnson Dermabond. NO SUBS	Tube	10
58	2	Tray, Incision & Drainage, Tray includes: 1 - CSR Wrap (20" x 20"), 1 - Paper Towel (13" x 19"); 1 - PVP Prep Pad, 1 - Fenestrated Drape 1 - Scalpel (No. 11), 1 - Forceps Adson Thumb (wire) Forceps, 1 - Kelly (wire) Forceps, 1 - Parapet Gauze (4" x 3"),	EA	10
59	2	Tube, Drainage, Surgical, (Heimlich Valve) (LATEX FREE)	EA	10

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Supplies, Pharmaceuticals, and Equipment

Airway Intervention and Management				
61	3	Airway, Nasopharyngeal 24 Fr, (LATEX FREE) Model = Sun-Med #1-5075-24 NO SUBS	EA	20
62	3	Airway, Oral, 100 mm (Adult), Model = Dynarex #4755 NO SUBS	EA	20
63	3	Airway, Oral, 40 mm (Neonatal/Infant), Model = Dynarex #4715 NO SUBS	EA	10
64	3	Airway, Oral, 80 mm (Sm Adult/Child), Model = Dynarex #4735 NO SUBS	EA	10
65	3	Cricothyrotomy Catheter Set, 3.5mm ID, Model = Melker #C-TCCS-350 NO SUBS Set must include: 1 - TFE Catheter Needle, 1 - Curved Radiopaque Dilator, 1 - Amplatz Extra Stiff Wire Guide with Flexible Tip, 1 - Emergency Cricothyrotomy Catheter (3.5mm), 1 -	EA	4
66	3	Cricothyrotomy Catheter Set, 6mm ID, Model = Melker #C-TCCS-600 NO SUBS Set must include: 1 - TFE Catheter Needle, 1 - Curved Radiopaque Dilator, 1 - Amplatz Extra Stiff Wire Guide with Flexible Tip, 1 - Emergency Cricothyrotomy Catheter (6mm), 1 - Perc	EA	6
67	3	Disposable Mouth Piece for Flow Rate Meter (Adult), Model = Assess #168200 NO SUBS	EA	25
68	3	Disposable Mouth Piece for Flow Rate Meter (Large Adult), Model = Assess #168200 NO SUBS	EA	25
69	3	Disposable Mouth Piece for Flow Rate Meter (Pediatric), Model = Assess #168200 NO SUBS	EA	25
70	3	End Tidal Carbon Dioxide Monitor, Model = Mercury Medical #StatCO2 NO SUBS	EA	50
71	3	Batteries for Laryngoscope (Extra) = C Size Batteries	EA	30
72	3	Laryngoscope Kit w/Pouch, Model = Sun-Med #5-5333-57 NO SUBS	EA	16
73	3	Laryngoscope Light Bulbs, Model = Sun-Med #5-0240-52 NO SUBS	EA	20
74	3	Laryngoscope, Handle (GR Spec Fiber Optic), Model = Sun-Med #5-0236-11 NO SUBS	EA	4
75	3	Laryngoscope, Mac Blade (# 2 GR Spec FO), Model = Sun-Med #5-5332-02EA NO SUBS	EA	2
76	3	Laryngoscope, Mac Blade (# 4 GR Spec FO), Model = Sun-Med #5-5332-04EA NO SUBS	EA	4
77	3	Laryngoscope, Miller Blade (# 0 GR Spec FO), Model = Sun-Med #5-5333-00EA NO SUBS	EA	2
78	3	Laryngoscope, Miller Blade (# 2 GR Spec FO), Model = Sun-Med #5-5333-02EA NO SUBS	EA	4
79	3	Laryngoscope, Miller Blade (# 3 GR Spec FO), Model = Sun-Med #5-5333-03EA NO SUBS	EA	4
80	3	Lubricant, Surgical (Individual Packets)	EA	250
81	3	Mask, Bag Valve (Ambu Bag) (Adult) (LATEX FREE), Ambu Model #42024000 NO SUBS	EA	15
82	3	Mask, Bag Valve (Ambu Bag) (Neonatal) (LATEX FREE), Ambu Model #430213000 NO SUBS	EA	4
83	3	Mask, Bag Valve (Ambu Bag) (Pediatric) (LATEX FREE), Model = Ambu Model #440212000. NO SUBS	EA	10
84	3	Mask, Oxygen (Adult), Medium Concentration, with 7 ft Tubing (LATEX FREE) Model = Amsino #AS74010 NO SUBS	EA	50
85	3	Mask, Oxygen (Non-Rebreather, Adult) with patient safety vent, 7 ft tubing and resevoir bag (LATEX FREE) Model = Amsino #AS75010 NO SUBS	EA	50
86	3	Mask, Oxygen (Non-Rebreather, Pediatric) with patient safety vent, 7 ft tubing and resevoir bag (LATEX FREE), Model = Amsino #AS75020 NO SUBS	EA	20
87	3	Mask, Oxygen (Pediatric), Medium Concentration, with 7 ft Tubing (LATEX FREE), Model = Amsino #AS74030 NO SUBS	EA	20
88	3	Mask, Pocket (Adult), Model = Ambu Res-Cue Mask NO SUBS	EA	10
89	3	Nebulizer Air Pump, Model = Hsiner #ME8308 NO SUBS	EA	10
90	3	Nebulizer Med Adminstration Kits (Includes mask, canister, and 6' of O2 tube), Model = Hsiner #ME7402 NO SUBS	EA	200

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Supplies, Pharmaceuticals, and Equipment

Airway Intervention and Management				
91	3	Oxygen Nasal Cannula (LATEX FREE) Adult, Model = Cardinal #1310 NO SUBS	EA	100
92	3	Oxygen Nasal Cannula (LATEX FREE) Pediatric, Model - Amsino #75090 NO SUBS	EA	50
93	3	Oxygen Nebulizer, Inline, Handheld (Includes: breathing device, canister and 6' of O2 tube) (LATEX FREE), Model = Hsiner #ME7401 NO SUBS	EA	50
94	3	Peak Expiratory Flow Rate Meter - Low Range (LATEX FREE), Model = Assess NO SUBS	EA	5
95	3	Peak Expiratory Flow Rate Meter (LATEX FREE), Model = Assess NO SUBS	EA	5
96	3	Stylete, Intubation (Adult), Model = Sun-Med #9-0204-25 NO SUBS	EA	26
97	3	Stylete, Intubation (Ped), Model = Sun-Med #9-0204-14 NO SUBS	EA	12
98	3	Suction Catheter, 14FR (LATEX FREE)	EA	50
99	3	Suction Catheter, 6FR (LATEX FREE)	EA	20
100	3	Suction Catheter, 8FR (LATEX FREE)	EA	20
101	3	Suction Unit, Manual, V-Vac , Double Male Connector, Model = Laerdal #985003 NO SUBS	EA	80
102	3	Suction Unit, Manual, V-Vac, 18 Fr. Catheter (Specific To V-Vac), Model = Laerdal #98532 NO SUBS	EA	80
103	3	Suction Unit, Manual, V-Vac, Adapter Kit, Model = Laerdal #98526 NO SUBS	EA	48
104	3	Suction Unit, Manual, V-Vac, Cartridge (Spare), Model = Laerdal #95421 NO SUBS	EA	48
105	3	Suction Unit, Manual, V-Vac, w/Cartridge (Starter Kit), Model = Laerdal #98362 NO SUBS	EA	24
106	3	Suction Unit, V-Vac manual unit = V-Vac Handle, Model = Laerdal #985030 NO SUBS	EA	12
107	3	Suction Unit, Portable (LATEX FREE) Model = Laerdal #880020 NO SUBS	EA	5
108	3	Suction Unit, Portable, Collection Jar, Canister, 1200 cc (LATEX FREE) Model = Laerdal #883000 NO SUBS	EA	100
109	3	Suction Unit, Portable, Spare Battery, Model = Laerdal #884301 NO SUBS	EA	40
110	3	Suction Unit, Portable, Tubing (Sterile) 9/32 ID x 6', Tubing Non-Cond 7mm (LATEX FREE)	EA	400
114	3	Thoracic Vents Kit for Pneumothorax - Kit to include: Thoracic vent, Trocar, Aspiration cannula, Suction tubing set, 60cc syringe, 3cc syringe, Safety needle (25G x 5/8"), Safety needle (22G x 1 1/2"), Scalpel, 2 Gauze sponges, Fenestrated drape, CSR wra	EA	5
115	3	Thoracic Vents Kit for Pneumothorax - Kit to include: Thoracic vent, Trocar, Aspiration cannula, Suction tubing set, 60cc syringe, 3cc syringe, Safety needle (25G x 5/8"), Safety needle (22G x 1 1/2"), Scalpel, 2 Gauze sponges, Fenestrated drape, CSR wra	EA	15
116	3	Tube, Endotracheal 3.5 w/o Cuff (LATEX FREE), Model = Sun-Med #1-7330-35 NO SUBS	EA	12
117	3	Tube, Endotracheal 4.5 w/o Cuff (LATEX FREE), Model = Sun-Med #1-7330-45 NO SUBS	EA	12
118	3	Tube, Endotracheal 5.0 w/ Cuff (LATEX FREE), Model = Sun-Med #1-7333-50 NO SUBS	EA	10
119	3	Tube, Endotracheal 6.0 w/ Cuff (LATEX FREE), Model = Sun-Med #1-7333-60 NO SUBS	EA	12
120	3	Tube, Endotracheal 7.0 w/ Cuff (LATEX FREE), Model = Sun-Med #1-7333-70 NO SUBS	EA	15
121	3	Tube, Endotracheal 7.5 w/ Cuff (LATEX FREE), Model = Sun-Med #1-7333-75 NO SUBS	EA	15
122	3	Tube, Endotracheal 8.0 w/ Cuff (LATEX FREE), Model = Sun-Med #1-7333-80 NO SUBS	EA	12
123	3	Tube, Nasal Gastric (NGT), 10FR (LATEX FREE)	EA	20
124	3	Tube, Nasal Gastric (NGT), 18FR (LATEX FREE)	EA	40
125	3	Tube, Nasal Gastric (NGT), 6FR (LATEX FREE)	EA	20

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Supplies, Pharmaceuticals, and Equipment

		Immobilization		
127	4	Cervical Collar, Adjustable, Oversized trachea opening and open rear ventilation panel, One Size Fits All, Model = Philadelphia EMT's Choice NO SUBS	EA	10
128	4	Crutches w/Tips/Pads Installed, Adult	EA	10
129	4	Crutches w/Tips/Pads, Installed, Youth	EA	10
130	4	Fiberglass splint material 3" x 4 yds, BSN-MED #6823A NO SUBS	Roll	3
131	4	Fiberglass splint material 4" x 4 yds, BSN-MED #3874 NO SUBS	Roll	3
132	4	Splint, AlumaFoam, 3/4" x 18" Model = Conco #61340000 NO SUBS	EA	20
133	4	Splint Kit-Adult/Pediatric, Prosplints Combo Kit (13 pieces + carrying case) Model = Med Spec #113918 NO SUBS	EA	1
134	4	Splint, HARE Traction, Adult NO SUBS	EA	2
135	4	Splint, HARE Traction, Pediatric NO SUBS	EA	1
		Patient Bedding, Cots, Misc.		
137	5	Adult Diapers Med (12 per pack)	Pack of 12	20
138	5	Adult Diapers Small (12 per pack)	Pack of 12	20
139	5	Basin, Wash, Plastic, Model = Medline #80321 NO SUBS	EA	100
140	5	Bed Pan, Model = Medline #80245 NO SUBS	EA	200
141	5	Blankets, Polyester/Non-woven (Minimum size = 50" x 84") Model = Graham Medical #5238 NO SUBS	EA	150
142	5	Patient cots	EA	55
143	5	Patient cots, 4 wheels, collapsible, adjustable back, min. of 2 patient restraint straps	EA	10
144	5	Pillows, disposable (size = 18"x24", 15 oz)	EA	120
145	5	Sheet, Bed , White, Disposable, Poly/Tissue (size = 40" x 90"), Model = Graham Medical #323 NO SUBS	EA	300
146	5	Short Arm Board (size = 2" x 6")	EA	50
147	5	Urinal, Male, Disposable	EA	80
148	5	Wash Cloth	EA	500

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Healthcare Proivder Personal Protective Equipment (PPE)				
150	6	Brush, Scrub, Surgical, w/PCMX	EA	45
151	6	Gloves, Examination, Nitrile, Powder Free, Lrg (LATEX FREE)	Box 100	20
152	6	Gloves, Examination, Nitrile, Powder Free, Med (LATEX FREE)	Box 100	20
153	6	Gloves, Examination, Nitrile, Powder Free, Small (LATEX FREE)	Box 100	20
154	6	Gloves, Examination, Nitrile, Powder Free, X-Lrg (LATEX FREE)	Box 100	20
155	6	Gloves, Surgeons, Sterile, Size #6.5 (LATEX FREE)	PR	100
156	6	Gloves, Surgeons, Sterile, Size #7.0 (LATEX FREE)	PR	100
157	6	Gloves, Surgeons, Sterile, Size #7.5 (LATEX FREE)	PR	100
158	6	Gloves, Surgeons, Sterile,Size #8 (LATEX FREE)	PR	100
159	6	Goggle, Eye	EA	600
160	6	Gown, Exam, Model = Banta #920431 NO SUBS	EA	600
161	6	Gown, Isolation, Protection, Brand = Dynarex, Model #2141 NO SUBS	EA	300
162	6	Gowns (for staff—splash resistant—case of 12) LATEX FREE, Brand = Dynarex, Model #2141 NO SUBS	EA	10
163	6	Hand Sanitizer, 4 oz bottle w/ flip top, 62% alcohol w/ skin moisterizer, Model = Kutol #5635GP NO SUBS	EA	3600
164	6	Insect Repellant, 20% Deet, SPF-15 (Spray)	EA	12
165	6	Mask, HEPA, N95 Respirators, Flat Fold, Individually wrapped, Donning instructions on each individual N95 package	EA	1000
166	6	Mask, Surgical	EA	1000
167	6	Sharps Container w/Needle Remover, (Size = 8 gallon)	EA	15
168	6	Sharps Shuttle, Small Conical, case of 24, Model = Tyco #8301	case	2
169	6	Shield, Eye, Plastic	EA	10
170	6	Shield, Full Faceguard, Clear Model = Dynarex #2202 NO SUBS	EA	60

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Supplies, Pharmaceuticals, and Equipment

Exam Supplies				
172	7	Monitor, Blood Glucose, Glucometer Kit w/ extra set of batteries, Model = Precision Extra #99837-20 NO SUBS	EA	5
173	7	Monitor, Blood Glucose, Lancets, Disp., Model = Roche "Soft Click" # 971 NO SUBS	EA	300
174	7	Monitor, Blood Glucose, Test Strips, Model = Precision Extra #99838-35 NO SUBS	Bottle	10
175	7	Opthalmoscope/Otoscope, Pocket Set w/Handle & Pouch, w/ needed amount of batteries to operate + 1 extra set of batteries, Model = Reister #20313030 NO SUBS	EA	6
176	7	Pulse Oximeter, handheld, w/ needed amount of batteries to operate + 1 extra set of batteries - Must include 4 extra sensors: 2 x Durasensor (DS100A) Adult Finger Clip Sensor and 2 x Both Dura-Y Multisite sensor (D-YS/D) and Pedicheck Pediatric Spot-Chec	EA	20
177	7	Speculum, Ear, Disp, Model = Specline #7400	EA	500
178	7	Sphygmomanometer, Aneroid Set, Nylon Blue Cuff w/Case (Adult), Model = Dixie Medical #143401 NO SUBS	EA	10
179	7	Sphygmomanometer, Aneroid Set, Nylon Blue Cuff w/Case (Adult, Lrg), Model = Dixie Medical #143425 NO SUBS	EA	10
180	7	Sphygmomanometer, Aneroid Set, Nylon Blue Cuff w/Case (Child), Model = Dixie Medical #143406 NO SUBS	EA	4
181	7	Sphygmomanometer, Aneroid Set, Nylon Blue Cuff w/Case (Infant), Model = Dixie Medical #143407 NO SUBS	EA	2
182	7	Stethoscope, Single Head, Black (LATEX FREE), Model = Dixie Medical #143100 NO SUBS	EA	10
183	7	Thermometer, Disposible (Temp-a-Dot), Brand = 3M NO SUBS	EA	250
184	7	Thermometer, Infrared, w/ needed amount of batteries to operate + 1 extra set of batteries	EA	6
185	7	Tongue Blades	EA	500

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Supplies, Pharmaceuticals, and Equipment

General Supplies				
187	8	AED, Stat padz II HVP Multi-Function Electrodes Individual Pairs (To be included with AED Pro System) Brand = Zoll, Model #8900-0801-01 NO SUBS	PR	2
188	8	Defibrillator, stat padz II HVP Multi-Function Electrodes 12 pair/case, Brand = Zoll, Model #8900-0802-01 NO SUBS	CASE	1
189	8	Defibrillator, pedi padz II Multi-Function Electrodes 6 pair/case, Brand = Zoll, Model #8900-0810-01 NO SUBS	CASE	1
190	8	AED, AED Pro Non-Rechargeable lithium battery pack, Brand = Zoll, Model #8000-0860-01 NO SUBS	EA	2
191	8	AED, AED Pro ECG Cable AAMI, Brand = Zoll, Model #8000-0838 NO SUBS	EA	2
192	8	Defibrillator, Box of 200 packs of 3-lead EKG disposable monitoring electrodes, Brand = Zoll NO SUBS - 8900-0003	Box	1
193	8	Backboard, 16"W x 70"L, Weight Capacity = 500lbs, X-ray translucent (Orange Color), Model = Dixie Medical #540055 NO SUBS	EA	2
194	8	Basin, Emesis, Model = Medline #5685521 NO SUBS	EA	200
195	8	Body Bags, Black (Black 17 ml, 6-Handle, Envelope Zipper)	EA	25
196	8	Broselow Pediatric Tape, Model = Broselow/Hinkle #AE-4800 NO SUBS	EA	6
197	8	Catheter, Foley, Tray, 16Fr, Closed System, Sterile (LATEX FREE) Tray must include: 1,000 cc Outer Basin Tray, 1 ea Prefilled 10 cc Syringe of Sterile Water, 1 Pair of Stretchy Vinyl Gloves, 1 ea Waterproof Drape, 1 ea Pkg Lubricating Jelly, 1 ea Fenestra	EA	50
198	8	Catheter, Foley, Tray, 20Fr, Closed System, Sterile (LATEX FREE) Tray must include: 1,000 cc Outer Basin Tray, 1 ea Prefilled 10 cc Syringe of Sterile Water, 1 Pair of Stretchy Vinyl Gloves, 1 ea Waterproof Drape, 1 ea Pkg Lubricating Jelly, 1 ea Fenestra	EA	20
199	8	Diaper, Huggies, Ultra-trim, 6 -14 lb.	EA	240
200	8	Dry Erase Boards, 4 feet x 4 feet	EA	4
201	8	Dry Erase Markers (4 different colors)	sets of 4	10
202	8	Felt Pens (e.g., Sharpie Permanent Marker – Medium)	EA	50
203	8	Flashlight w/ needed amount of batteries to operate + 1 extra set of batteries	EA	20
204	8	IV Poles -4 hook, 5 ballbearing swivel casters, telescopic, stainless steel	EA	25
205	8	Obstetrical Kit, Emergency - Each kit to include: (1) Pair Sterile Non-Latex Gloves, (1) Sterile Scalpel, (1) Sterile OB Pad, (4) Sterile Gauze 4x4", (1) Sterile Bulb Syringe, (2) Sterile Umbilical Clamps, (1) Plastic Underpad, (1) Receiving Blanket, (3)	EA	4
206	8	Patient Charting Erasable Clip Boards	EA	50
207	8	Razor, Disposable	EA	20

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Supplies, Pharmaceuticals, and Equipment

General Supplies				
211	8	Duct Tape, 2" x 60yd	Roll	40
212	8	Cable Ties, Bags of 100, Variety of sizes from 7" to 25"	Bag	20
213	8	Drill, Cordless, 18 volt, w/ backup batt, Must include drill bits (#1 & #2)	EA	2
214	8	Drill, Corded, 110 Capatable	EA	1
215	8	Extension Cord, 14 AMP, 50'	EA	3
216	8	Power Surge Strip, 6 outlets per strip	EA	3
217	8	Screws, 2", 5 LB Boxes	Box	2
218	8	Screws, 1", 5 LB Boxes	Box	1
219	8	Screws, 3", 5 LB Boxes	Box	1
220	8	Hammer, 16oz	EA	2
221	8	Hammer, 20oz	EA	2
222	8	Nails, 2", 5 lb boxes	Box	2
223	8	Nails, 1", 5 lb boxes	Box	1
224	8	Nails, 3", 5 lb boxes	Box	1
225	8	Plastic Construction Sheeting, 10' x 100' Roll, Minimum of 6 mil thickness	Roll	4
226	8	Tarp, 10' X 20'	EA	15
227	8	Tarp, 20' X 40'	EA	5
228	8	Container for Sterilizing Instruments, 1200cc	EA	5
229	8	Cavicide for Instrument Sterilization, 20 gal bottle	Bottle	1

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Defibrillators and Associated Supplies				
231	9	Defibrillator, 5 Year Warranty, Brand = Zoll, Model #8778-0107 NO SUBS	EA	2
232	9	Defibrillator, 5 year Maintenance Program, including Battery Exchange every 18 mo, Brand = Zoll NO SUBS	EA	2
233	9	Defibrillator, Carry Case for IVP and paddle storage, XL with rear and side pockets, Brand = Zoll, Model #8000-0657 NO SUBS	EA	2
234	9	Defibrillator, Zoll Base PowerCharger 4x4, Brand = Zoll, Model #8050-0012-01 NO SUBS	EA	1
235	9	Defibrillator, Cuff, All Purpose, Pediatric/Small Adult, 17-25 cm, Brand = Zoll, Model #8000-1650 NO SUBS	EA	2
236	9	Defibrillator, Cuff, All Purpose, Large Adult 34-48cm, Brand = Zoll, Model #8000-1654 NO SUBS	EA	2
237	9	Defibrillator, Cuff, All Purpose, Adult 25-34cm, Brand = Zoll, Model #8000-1652 NO SUBS	EA	2
238	9	Defibrillator, Cuff, All Purpose, Adult 25-42cm, Brand = Zoll, Model #8000-1653 NO SUBS	EA	2
239	9	Defibrillator, stat padz II HVP Multi-Function Electrodes 12 pair/case, Brand = Zoll, Model #8900-0802-01 NO SUBS	CASE	2
240	9	Defibrillator, pedi padz II Multi-Function Electrodes 6 pair/case, Brand = Zoll, Model #8900-0810-01 NO SUBS	CASE	2
241	9	Defibrillator, LNCS Adult Reusable Pulseox Probe, 1 each, Brand = Zoll, Model #8000-0294 NO SUBS	EA	2
242	9	Defibrillator, LNCS Pediatric Reusable Sensor, 1 each, Brand = Zoll, Model #8000-0295 NO SUBS	EA	2
243	9	Defibrillator, M series/E Series External Paddle Assembly Apex/Sternum with controls and built in pediatric electrodes, Brand = Zoll, Model #8000-1010-01 NO SUBS	EA	2
244	9	Defibrillator, ETCO2 Capnography (Mainstream), Brand = Zoll, Model #8000-0264-01 NO SUBS	EA	2
245	9	Defibrillator, Capnography (Mainstream) Adult/Pediatric Airway Adaptor, Box of 10, Brand = Zoll, Model #8000-0260-01 NO SUBS	Box	2
246	9	Defibrillator, Operator Manual/Instructions, Brand = Zoll. NO SUBS	EA	2
247	9	Defibrillator, 3-Lead ECG Monitoring Cable (Spare), Brand = Zoll, Model #8000-0025 NO SUBS	EA	2
248	9	Defibrillator, Box of 200 packs of 3-lead EKG disposable monitoring electrodes, Brand = Zoll, Model #8900-0003 NO SUBS	Box	2
249	9	Defibrillator, BP hose (spare) 1.5 meter, Brand = Zoll, Model #8000-0655 NO SUBS	EA	2
250	9	Defibrillator, Pediatric disposable pulse oximetry probes, 20/case Brand = Zoll Model #8000-0321 NO SUBS	case	4
251	9	Defibrillator, Reuseable pulse oximetry cable - 4 ft (spare) Brand = Zoll, Model #8000-0298 NO SUBS	EA	2
252	9	Defibrillator, rechargeable Battery, Lead Acid Brand = Zoll, Model #8000-0299-01 NO SUBS	EA	4
253	9	maintained by the Supplier and arranged for delivery at the State of California's request	EA	4
254	9	Defibrillator, Recorder Paper 80mm Fan Fold, Brand = Zoll, Model #8000-0302 NO SUBS	Pack	20

NO SUBS = No Substitutions
PVP = providone iodine
CHG = chlorhexidine gluconate
PCMX = parachlorometaxylenol

Tool 9 – Inventory Based PPE

Development of Standards and Guidelines for Healthcare Surge During Emergencies

Personal Protective Equipment that May Be Required During a Surge

Suggested Components for Chemical Protective Ensemble:	Current Supply	Total Potential Requiring Treatment	Quantity Needed	Alternate Source
Protective clothing (suit, coveralls, hoods, gloves, boots)				
Respiratory equipment (SCBA, combination SCBA/ Supplied - Air Respirator (SAR), Powered Air Purifying Respirator (PAPR) Air Purifying Respirator (APR)				
Cooling system (ice vest, air circulation, water circulation)				
Communications device				
Head protection				
Eye protection				
Ear protection				
Inner garment				
Out protection (overgloves, overboots, flashcover)				
Suggested Ensemble Components – Level A	**Current Supply**	**Total Potential Requiring Treatment**	**Quantity Needed**	**Alternate Source**
A fully encapsulated, liquid and vapor protective ensemble selected when the highest level of skin, reparatory and eye protection is required				
Positive pressure, full face-piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH). Closed-circuit Rebreather/ open circuit SCBA				
Totally-encapsulating chemical-protective suit				
Gloves, outer, chemical-resistant				
Gloves, inner, chemical-resistant.				
Boots, chemical-resistant, steel toe and shank, outer booties				
Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally-encapsulating suit)				
Coveralls.				
Long underwear Hard hat (under suit), personal cooling system, chemical resistant tape.				

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Supplies, Pharmaceuticals, and Equipment

Suggested Ensemble Components – Level B	Current Supply	Total Potential Requiring Treatment	Quantity Needed	Alternate Source
A liquid-splash-resistant ensemble used with the highest level of reparatory protection				
Positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved)				
Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls)				
Gloves, outer, chemical-resistant				
Gloves, inner, chemical-resistant				
Boots, outer, chemical-resistant steel toe and shank				
Boot-covers, outer, chemical-resistant				
Hard hat, personal cooling system, chemical resistant tape				
Coveralls				
Face shield				
Suggested Ensemble Components – Level C	**Current Supply**	**Total Potential Requiring Treatment**	**Quantity Needed**	**Alternate Source**
A liquid-splash-resistant ensemble, with the same level of skin protection as Level B, used when the concentration(s) and type(s) of airborne substances(s) are known and the criteria for using air-purifying respirators are met				
Pappers or half-mask, air purifying respirators (NIOSH approved)				
Hooded chemical-resistant clothing (overalls; two-piece chemical-splash suit; disposable chemical-resistant overalls)				
Gloves, outer, chemical-resistant				
Gloves, inner, chemical-resistant				
Boots (outer), chemical-resistant steel toe and shank				
Boot-covers, outer, chemical-resistant				
Coveralls* Hard hat, face shield, personal cooling system				
Escape mask				
Face shield				

Supplies, Pharmaceuticals, and Equipment

Suggested Ensemble Components – Level D	Current Supply	Total Potential Requiring Treatment	Quantity Needed	Alternate Source
A work uniform affording minimal protection: used for nuisance contamination only				
Coverallss				
Boots/shoes, chemical-resistant steel toe and shank				
Boots, outer, chemical-resistant (disposable)				
Gloves				
Safety glasses or chemical splash goggles				
Hard hat				
Escape mask				
Face shield				

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Supplies, Pharmaceuticals, and Equipment

The following checklist identifies some of the issues organizations should consider when developing caches of *Supplies*, *Pharmaceuticals*, and *Equipment* for use in a surge.

Pharmaceuticals

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Inventory Management

☐ A process for monitoring the expirations dates.

☐ A process for rotating stock from the cache into the general inventory to minimize outdates, if applicable.

☐ A process for returning stock to the vendors for replacement or credit, if applicable.

☐ Medications from large dispensing sites may come in unit dose (a single packaged pill) or in bulk bottles (a bottle containing 100 pills) that will require local repackaging.

- Repacked pharmaceuticals require proper labeling.
- These labels are important for lot number and patient tracking in the event of contamination, adverse reactions, or medication error.

Environmental

☐ A process for monitoring the environment to meet United States Pharmacopeia (USP) standards, e.g., temperature, humidity, pests,

☐ Most medications require adequate room temperature, as specified in the Strategic National Stockpile guidelines, to range between 68° and 77° F.

☐ Local planning should ensure that manufacturer's storage guidelines are met.

Security

Existing Healthcare Facility *(assuming a heightened state of security)*

☐ A process for ensuring the security of the caches.

☐ A process for controlling access into the building or area.

☐ A process for controlling access within the building.

☐ A process for Identifying and tracking of patients, staff, and visitors.

☐ Monitoring of facilities with security cameras.

☐ Security locks on pharmaceuticals in place.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

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Alternate Care Sites *(ACSs)*

☐ A process for ensuring the security of the pharmaceuticals provided to the ACS (e.g. locks, security personnel).

☐ A process for controlling access into the area.

☐ A process for controlling access within the area.

☐ A process for Identifying and tracking of patients, staff, and visitors.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

Caches *(external to an existing facility or ACS)*

☐ A process for ensuring the security of the caches.

☐ A process for controlling access into the area.

☐ A process for controlling access within the area.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

Licensing

☐ Depending on the location of the cache, consider any licensing needs, e.g., Board of Pharmacy.

☐ Consider the location of the cache and if it is licensed to receive a delivery of pharmaceuticals.

Ease of Access

☐ A process for staging the layout of pharmaceuticals to ensure ease of access, e.g., what is needed in the first 24 hours? (see Staging section for an example)

*See Appendix for the CA Board of Pharmacy Waiver

Inventory Management

☐ A process for monitoring and maintaining preventive maintenance requirements:

- ☐ Batteries
- ☐ Ventilator seals
- ☐ Electrical equipment

☐ A process for returning stock to the vendors for replacement or credit, if applicable.

☐ A process for monitoring the obsolescence of equipment, e.g., AEDs.

☐ Considerations for storing large amounts of supplies and equipment .

- ☐ Is storage space limited on-site?
- ☐ Can supplies and equipment be stored at other sites (e.g. warehouses, other facilities in health system).

Environmental

☐ A process for monitoring Personal Protective Equipment (PPE) e.g. Temperature.

Security

Existing Healthcare Facility *(assuming a heightened state of security)*

☐ A process for ensuring the security of the supply and equipment caches.

☐ A process for controlling access into the building or area.

☐ A process for controlling access within the building.

☐ A process for Identifying and tracking of patients, staff, and visitors.

☐ Monitoring of facilities with security cameras.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

Alternate Care Sites *(ACSs)*

☐ A process for ensuring the security of the supplies and equipment provided to the

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ACS (e.g. locks, security personnel).

☐ A process for controlling access into the area.

☐ A process for controlling access within the area.

☐ A process for Identifying and tracking of patients, staff, and visitors.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

Caches *(external to an existing facility or ACS)*

☐ A process for ensuring the security of the supply and equipment caches.

☐ A process for controlling access into the area.

☐ A process for controlling access within the area.

☐ A process for working with local authorities prior to surge to address heightened security needs.

☐ A process for working with private security entities prior to surge to address heightened security needs.

Transport

☐ A process for obtaining the caches and transporting to the desired locations.

☐ A process for loading supplies and equipment in an efficient manner (e.g. loading docks).

Ease of Access

☐ A process for staging the layout of supplies and equipment to ensure ease of access, e.g., what is needed in the first 24 hours? (see Staging section for an example)

Supplies, Pharmaceuticals, and Equipment

Consider the Following:

☐ A process for determining what items will be needed first → Concept of last in, first out.

☐ Do not place one type of material all in one place (e.g. cots all in one area).

☐ How the materials will be moved (e.g. deployable cart).

☐ How items are set up once they are taken out of storage (e.g. tents, tables, carts, and provisions for temperature control, such as ice, ice chests, etc.).

☐ Space is often a limiting factor.

- ☐ Consider alternate sites to stage supplies, pharmaceuticals, and equipment (e.g. off-site warehouses).

☐ Pushcarts can be utilized for moving materials efficiently.

- ☐ Pushcarts need to be labeled with all materials and expiration dates.

☐ Accountability for property

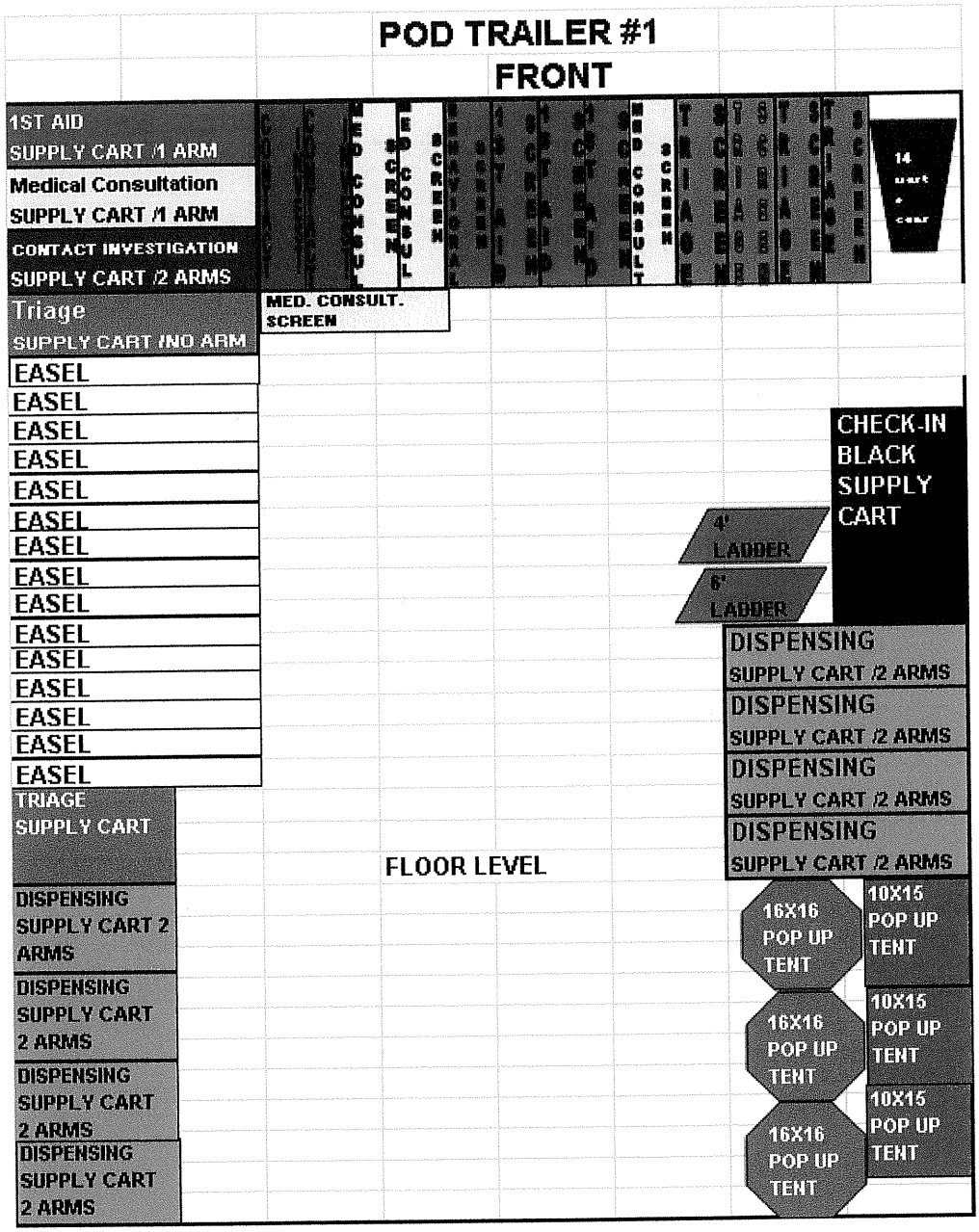
☐ Ownership of staging areas (state vs. local) and who is responsible for identifying Points of Distribution (PODS).

☐ Pharmaceutical caches should be stored in secure containers that can be easily transported (e.g. plastic totes with tear away locks).

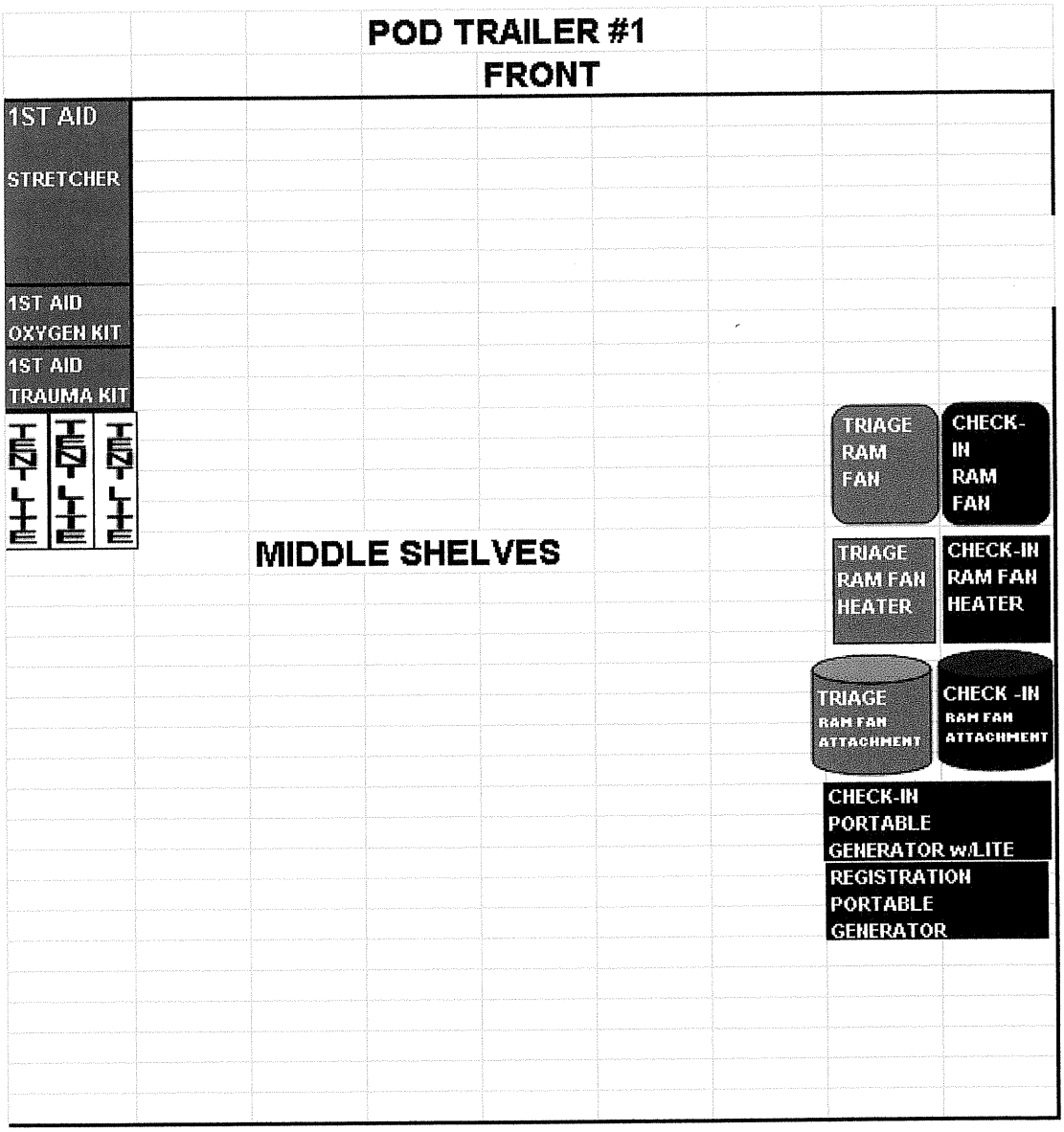
☐ Non-expired medical supplies should be kept separate from medical supplies that have expiration dates.

☐ Covering supplies, pharmaceuticals, and equipment for protection from the elements for purposes of reducing spoilage and the need to repackage materials.

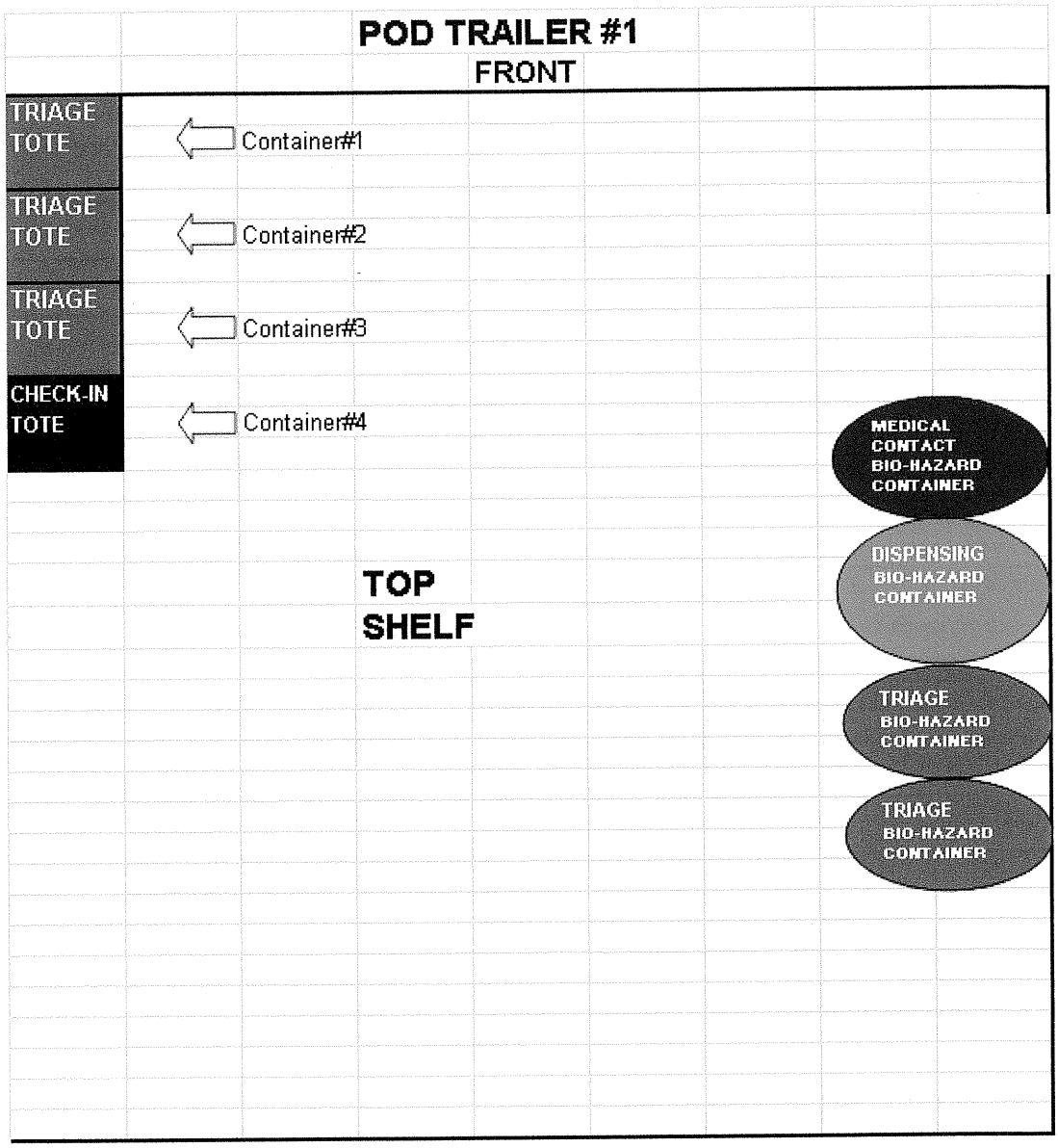
Staging Sample # 1: Bottom Level


POD TRAILER #1
FRONT
1ST AID
SUPPLY CART /1 ARM
Medical Consultation
SUPPLY CART /1 ARM
CONTACT INVESTIGATION
SUPPLY CART /2 ARMS
Triage
SUPPLY CART /NO ARM
MED. CONSULT.
SCREEN
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
EASEL
TRIAGE
SUPPLY CART
DISPENSING
SUPPLY CART 2
ARMS
DISPENSING
SUPPLY CART
2 ARMS
DISPENSING
SUPPLY CART
2 ARMS
DISPENSING
SUPPLY CART
2 ARMS
CHECK-IN
BLACK
SUPPLY
CART
4'
LADDER
6'
LADDER
DISPENSING
SUPPLY CART /2 ARMS
DISPENSING
SUPPLY CART /2 ARMS
DISPENSING
SUPPLY CART /2 ARMS
DISPENSING
SUPPLY CART /2 ARMS
FLOOR LEVEL
16X16
POP UP
TENT
10X15
POP UP
TENT
16X16
POP UP
TENT
10X15
POP UP
TENT
16X16
POP UP
TENT
10X15
POP UP
TENT

Staging Sample #1: Middle Level



Staging Sample #1: Top Level



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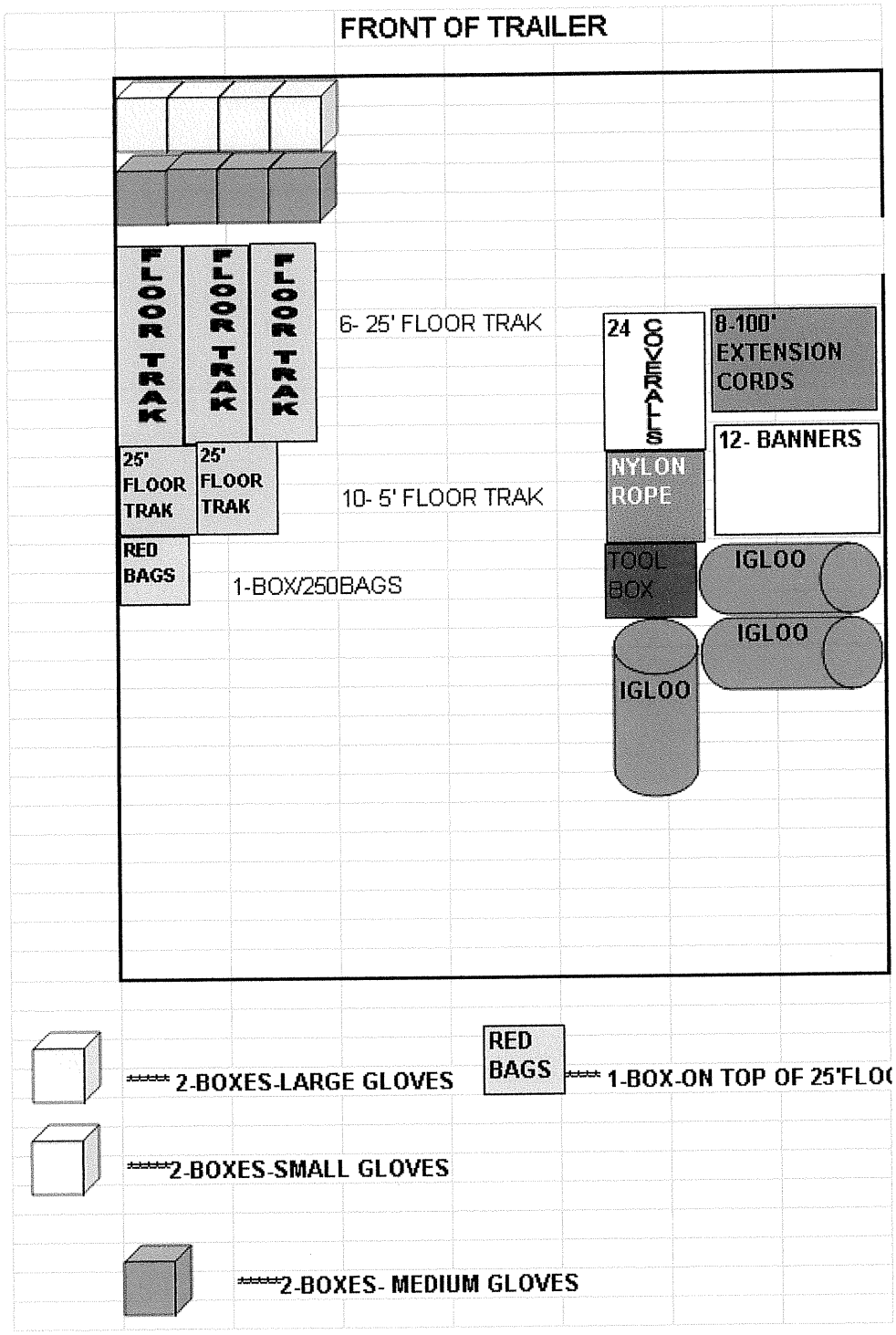
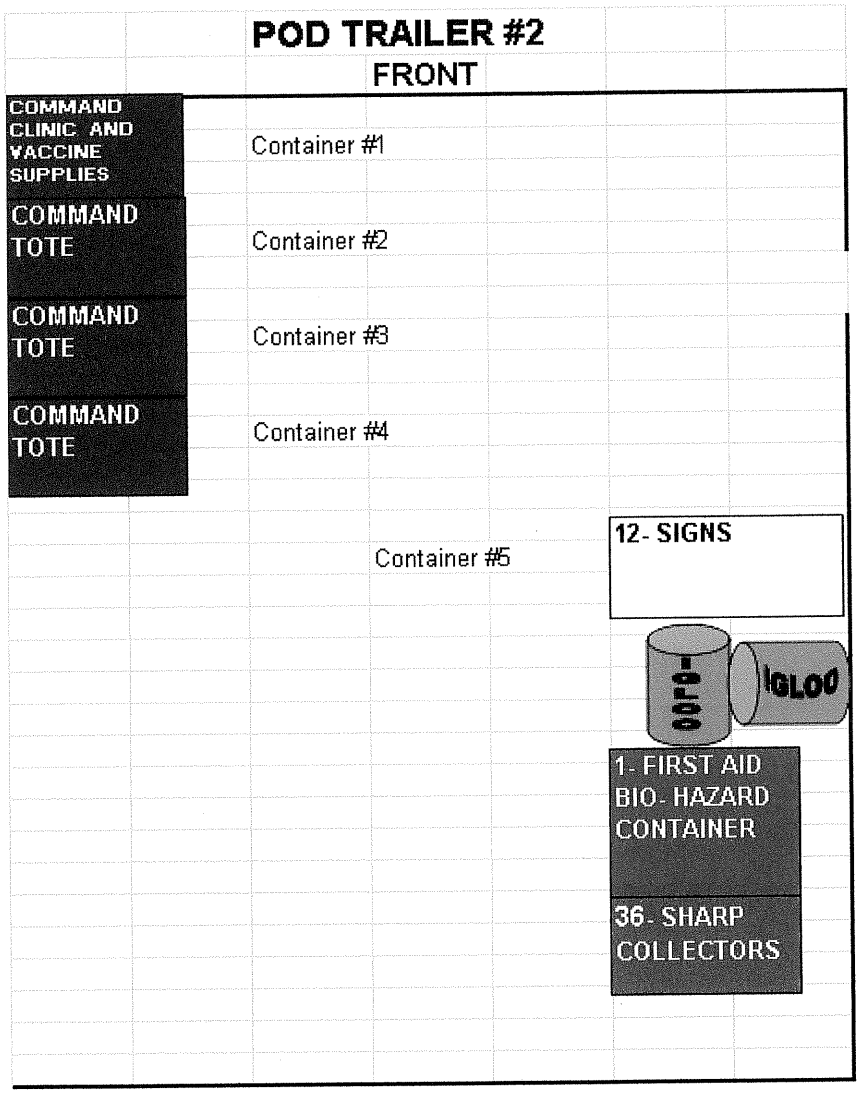
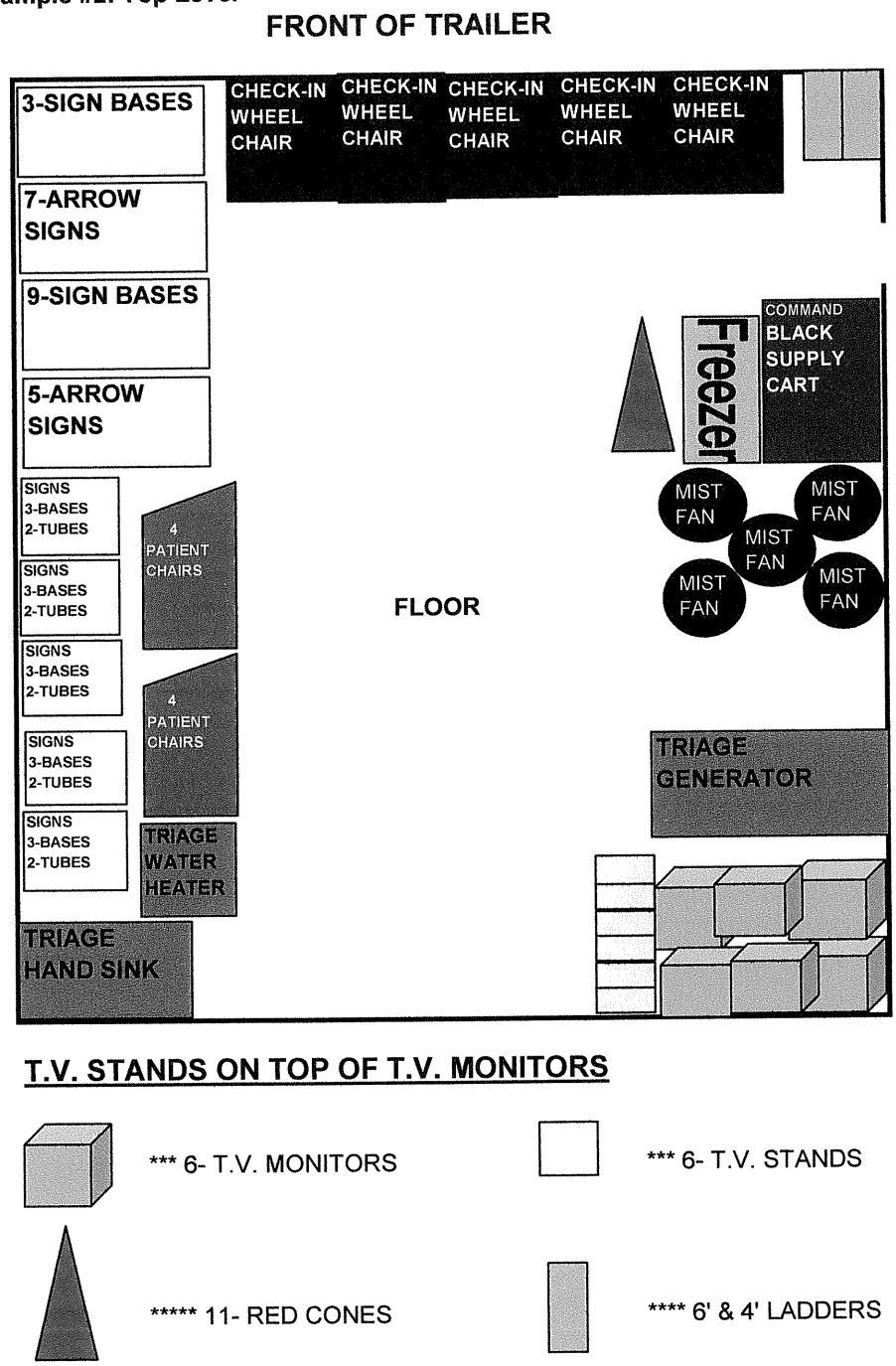


Staging Sample #2: Middle Level



Staging Sample #2: Top Level



California State Board of Pharmacy Disaster Response Policy Statement

The California State Board of Pharmacy wishes to ensure complete preparation for, and effective

response to, any local, state, or national disaster, state of emergency, or other circumstance requiring expedited health system and/or public response. Skills, training, and capacities of board licensees, including wholesalers, pharmacies, pharmacists, intern pharmacists, and pharmacy technicians, will be an invaluable resource to those affected and responding. The board also wishes to encourage an adequate response to any such circumstance affecting residents of California, by welcoming wholesalers, pharmacies, pharmacists, intern pharmacists, and pharmacy technicians licensed in October 25 and 26, 2006, Board Meeting Minutes - Page 13 of 52 pages good standing in other states to assist with health system and/or public response to residents of California.

The board encourages its licensees to volunteer and become involved in local, state, and national emergency and disaster preparedness efforts. City or county health departments, fire departments, or other first responders can provide information on local opportunities. The Emergency Preparedness Office of the California Department of Health Services is a lead agency overseeing emergency preparedness and response in California, particularly regarding health system response, drug distribution and dispensing, and/or immunization and prophylaxis in the event of an emergency. At the federal level, lead contact agencies include the Department of Health and Human Services, the Centers for Disease Control, and/or the Department of Homeland Security and its Federal Emergency Management Agency (FEMA). Potential volunteers are encouraged to register and get information at www.medicalvolunteer.ca.gov (California) and www.medicalreservecorps.gov (federal).

The board also continues to be actively involved in such planning efforts, at every level. The board further encourages its licensees to assist in any way they can in any emergency circumstance or disaster. Under such conditions, the priority must be protection of public health and provision of essential patient care by the most expeditious and efficient means. Where declared emergency conditions exist, the board recognizes that it may be difficult or impossible for licensees in affected areas to fully comply with regulatory requirements governing pharmacy practice or the distribution or dispensing of lifesaving medications.

In the event of a declared disaster or emergency, the board expects to utilize its authority under the California Business and Professions Code, including section 4062, subdivision (b) thereof, to encourage and permit emergency provision of care to affected patients and areas, including by waiver of requirements that it may be implausible to meet under these circumstances, such as prescription requirements, record-keeping requirements, labeling requirements, employee ratio requirements, consultation requirements, or other standard pharmacy practices and duties that may interfere with the most efficient response to those affected.1 The board encourages its licensees to assist, and follow directions from, local, state, and national health officials. The board expects licensees to apply their judgment and training to providing medication to patients in the best interests of the patients, with circumstances on the ground dictating the extent to which regulatory requirements can be met in

affected areas. The board further expects that during such emergency, the highest standard of care possible will be provided, and that once the emergency has dissipated, its licensees will return to practices conforming to state and federal requirements.

Furthermore, during a declared disaster or emergency affecting residents of California, the board hopes that persons outside of California will assist the residents of California. To facilitate such Expanded powers in the event of a disaster are also granted to the Governor and/or other chief executives or governing bodies within California by the California Emergency Services Act [Cal. Gov. Code, §§ 8550-8668] and the California Disaster Assistance Act [Cal. Gov. Code, §§ 8680-8690.7], among others. Section 8571 of the Government Code, for instance, permits the Governor to suspend any regulatory statute during a state of war or emergency where strict compliance therewith would prevent, hinder, or delay mitigation. October 25 and 26, 2006, Board Meeting Minutes - Page 14 of 52 pages assistance, in the event of a declared California disaster or emergency, the board expects to use its powers under the California Business and Professions Code, including section 900 and section 4062, subdivision (b) thereof, to allow any pharmacists, intern pharmacists, or pharmacy technicians, who are not licensed in California but who are licensed in good standing in another state, including those presently serving military or civilian duty, to provide emergency pharmacy services in California. The board also expects to allow nonresident pharmacies or wholesalers that are not licensed in California but that are licensed in good standing in another state to ship medications to pharmacies, health professionals or other wholesalers in California.

Finally, the board also expects to allow use of temporary facilities to facilitate drug distribution during a declared disaster or state of emergency. The board expects that its licensees will similarly respond outside of the state to disasters or emergencies affecting populations outside California, and will pursue whatever steps may be necessary to encourage that sort of licensee response.

[1]Expanded powers in the event of a disaster are also granted to the Governor and/or other chief executives or governing bodies within California by the California Emergency Services Act [Cal. Gov. Code, §§ 8550-8668] and the California Disaster Assistance Act [Cal. Gov. Code, §§ 8680-8690.7], among others. Section 8571 of the Government Code, for instance, permits the Governor to suspend any regulatory statute during a state of war or emergency where strict compliance therewith would prevent, hinder, or delay mitigation.
[2]See also the Interstate Civil Defense and Disaster Compact [Cal. Gov. Code, §§ 177-178], the Emergency Management Assistance Compact [Cal. Gov. Code, §§ 179-179.5], and the California Disaster and Civil Defense Master Mutual Aid Agreement [executed 1950], regarding cooperation among the states.

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[ii] Samuel J. Stratton and Robin D. Tyler, "Characteristics of Medical Surge Capacity Demand for Sudden – impact Disasters," The Society for Academic Emergency Medicine, doi: 10.1197/j.aem.2006.05.008.
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[ix] California Emergency Services Act [Cal. Gov. Code §§ 8550-8668] and the California Disaster Assistance Act [Cal. Gov. Code §§ 8680-8690.7].
[x] California Business and Professions Code, Section 4062, subdivision (b).

[xi] California Business and Professions Code, Section 4051.

[xii] California Business and Professions Code, section 900 and section 4062.

[xiii] California Business and Professions Code, Section 4059.5, Section 3, subdivision(a)

[xiv] California Business and Professions Code, Section 4062, subdivision (a).

[xv] Joint Commission.

[xvi] Joint Commission.

[xvii] Joint Commission.